APR 27 1903

Irving K. Pond, Des. Lorado Taft, Sculpt.

THE INLAND ARCHITECT AND NEWS RECORD

Entered at the Postoffice at Chicago as second-class matter.

CONTENTS.

EDITORIAL:
Death of Henry Van Brunt, Architect—Obsolete Methods of Fireproofing Condemned 21

OBSERVATIONS AND COMPARISONS OF EUROPEAN THEATER BUILDING 22
By J. E. O. Pridmore, Architect.

THE BUTLER BUILDING, CHICAGO 24

THE DECORATION OF ST. PAUL'S CATHEDRAL 25

FAILURE OF CONCRETE AS A FIREPROOFING MATERIAL 26

COMBUSTION (Continued) 27
By Morris R. Ebersole.

PAINTS IN ARCHITECTURE 27

CORRESPONDENCE:
In Regard to License Examinations in Illinois 27

OUR ILLUSTRATIONS 27

INDEX TO ADVERTISEMENTS IX

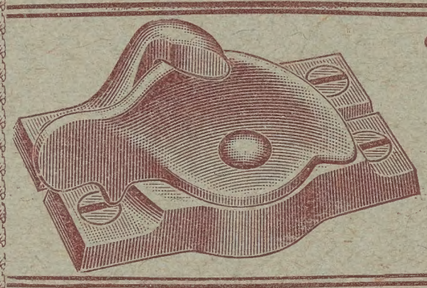
NORTH-WESTERN TERRA COTTA CO.

WORKS AND OFFICE:
Clybourn and Wrightwood Avenues.

BRANCH OFFICE: 1118 Rookery Building,
CHICAGO.

A NEW ROOFING TILE
WITH DOUBLE INTERLOCK AT TOP AND SIDES
ABSOLUTELY RAIN AND SNOW PROOF
NOW ON THE MARKET
Being made of stiff clay with metal dies under a pressure of fifty tons, it is both exceedingly light and dense, and will not break up nor flake off under the action of the elements. **Better than other tile. As cheap as good slate.**
THE NATIONAL TILE ROOFING CO.
LIMA, OHIO, U. S. A.

FITCH SASH LOCKS



"THE PERFECT WINDOW FASTENER."...
SEND FOR CATALOGUE AND WORKING MODEL
THE W. & E. T. FITCH CO., NEW HAVEN, CONN.

THE WINSLOW BROS. COMPANY
CHICAGO
ORNAMENTAL IRON AND BRONZE AND MONUMENTAL BRONZE STATUARY

THE WINSLOW ELEVATOR & MACHINE CO.
HIGH-GRADE ELECTRIC AND HYDRAULIC ELEVATORS

FOR SALE.
Two passenger and one freight, Hale, 100-foot travel elevators; vertical cylinders; been in use some years, but in first-class condition. Also one 18½ by 14 by 14 Duplex Delamater pump. Apply at office of
William Donaldson & Co.,
Minneapolis, Minn.

WANTED: A first-class architectural draftsman, one well up in designing and detail; permanent position and good salary to right party. Address, stating full particulars regarding experience and salary wanted,
RICHARDS, MCCARTY & BULFORD,
Architects, Columbus, Ohio.

PITKIN'S PREMIUM PAINT
FOR PRESERVING AND BEAUTIFYING.
We will be pleased to send a handsome color-card, appropriately framed in Flemish oak, to architects on application.
Geo. W. Pitkin Co.
Station "C," CHICAGO.

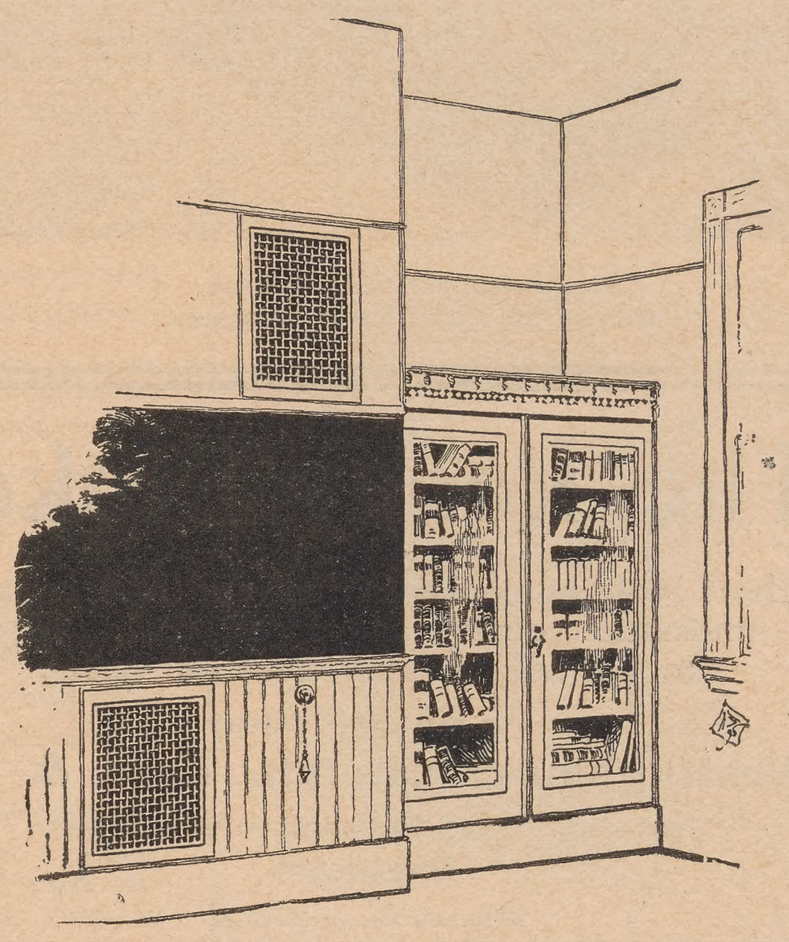
Advance News
INDICATING
Chances to Sell
PLANS, FIXTURES,
MATERIALS, FURNITURE,
MACHINERY,
May be secured with promptness, accuracy and thoroughness, and at reasonable rates, from
THE PRESS CLIPPING BUREAU,
ROBERT AND LINN LUCE,
78 Park Place, NEW YORK. 68 Devonshire St., BOSTON
Pike Bldg., CINCINNATI. Cooper Bldg, DENVER.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

SCHOOL HOUSE HEATING *and* VENTILATION

IS NO LONGER A MATTER OF SECONDARY IMPORTANCE in the eyes of the educator. When he demands an ample supply of properly warmed fresh air he realizes that it will not only maintain the health of the pupils, but also materially increase their mental activity.

It is the province of our Public Building Department to study such problems, and to assist in the solution.



B. F. STURTEVANT CO.
BOSTON, MASS.

NEW YORK CHICAGO PHILADELPHIA LONDON

317

The United States Military Academy buildings at West Point are covered with...

TAYLOR OLD STYLE ROOFING TIN

It is most favored for this class of work, because the BEST is required.

Made only by

N. & G. TAYLOR CO.
PHILADELPHIA
Established 1810

An Ideal Counting-room Equipment

1st. One that does not require the transportation of books and papers to vaults at night.

2d. One that *does* permit their being filed directly in desks and always at hand during the day.

3d. One containing all approved labor saving devices.

4th. One securing maximum strength in a minimum space.

5th. One that saves the space and costs of book vaults.

6th. One unaffected by heat or moisture, insuring freedom from repairs.

7th. One that is sanitary and impervious to microbes, vermin and rodents.

8th. One that is artistic.

9th. One that is incombustible and effectually prohibits fire.

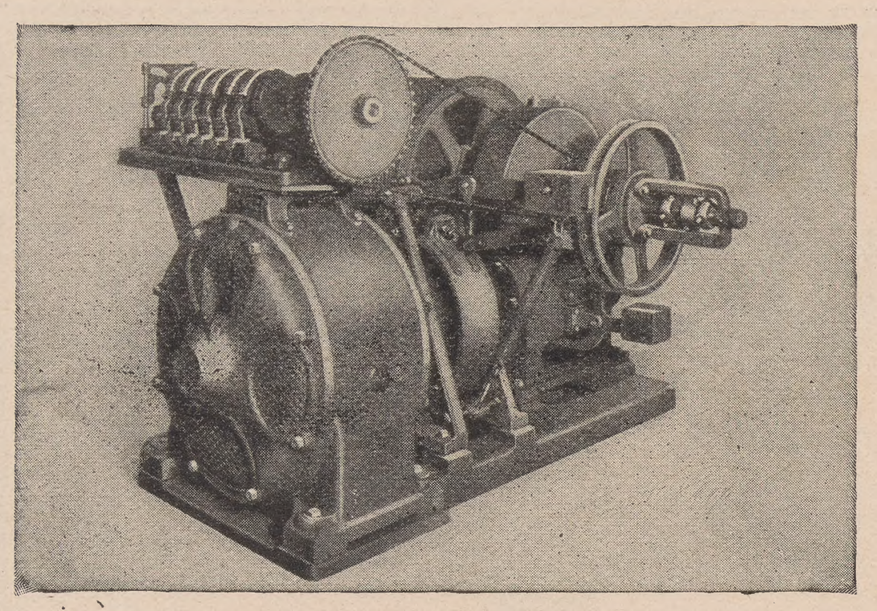
Equipments of Marble and Metal alone meet these conditions. We supply them.

ART METAL CONSTRUCTION CO.

132 Gifford Avenue, JAMESTOWN, N. Y.

Some Elevations Illustrated in Booklet 538.

Please mention **THE INLAND ARCHITECT** when corresponding with Advertisers.



Westinghouse Induction Motor,
Driving Electric Elevator Apparatus.

Westinghouse Motors

Are a necessary part of the equipment of modern Office and Public Buildings. They drive Blowers, Elevators, Pumps, etc., efficiently and economically.

Write for Circulars 1042 and 1050.

Westinghouse Electric & Manufacturing Co., Pittsburg, Pa.

Sales Offices in all Large Cities.

The Roney Stoker

Effects large economies in fuel and labor, also the smokeless combustion of soft coal. May be applied to any form of boiler.

For particulars address

Westinghouse, Church, Kerr & Co.

New York, Boston, Pittsburg, Chicago, Detroit,

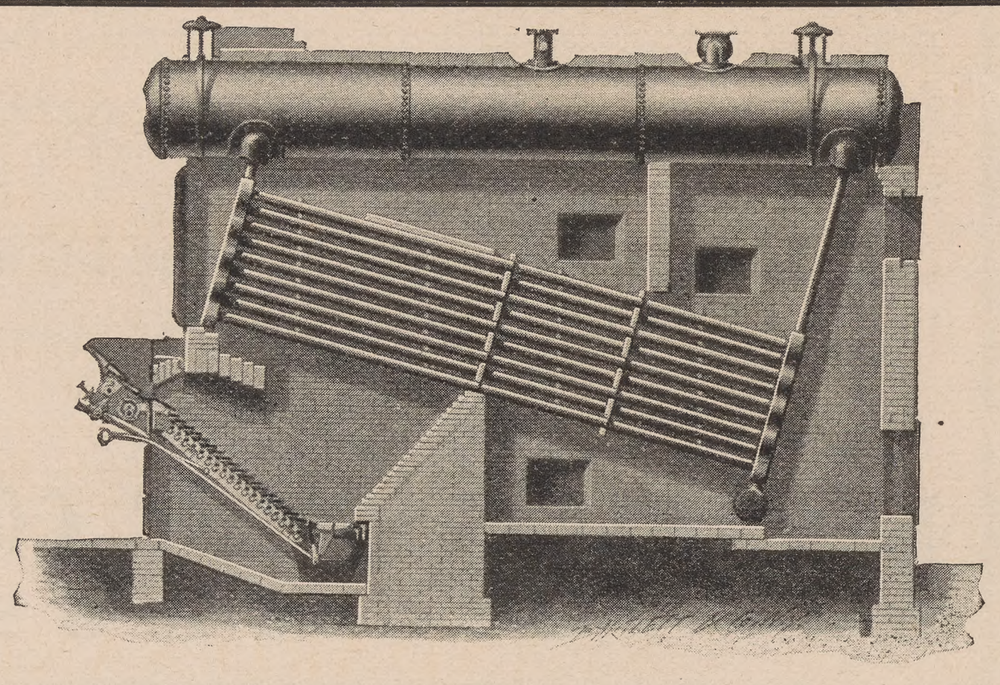
Engineers

Who sell the product of

The Westinghouse Machine Co.

Pittsburg Designers and Builders of Chicago

Steam Engines, Gas Engines, Steam Turbines, Roney Mechanical Stokers.



Roney Stoker applied to Horizontal Water-Tube Boiler.

The Winkle Terra Cotta Co.

MANUFACTURERS OF

Architectural Terra Cotta

IN ALL COLORS.

OFFICE:

Rooms 502 and 503, Century Building,
ST. LOUIS, MO.

Works: CHELTENHAM, ST. LOUIS.

Established 1863 Incorporated 1903

KAESTNER & CO.

BUILDERS OF

HIGH CLASS

Electric Elevators

For PASSENGER and FREIGHT SERVICE

ANY CAPACITY

OFFICE AND WORKS
241-261 So. Jefferson St. CHICAGO, ILL.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

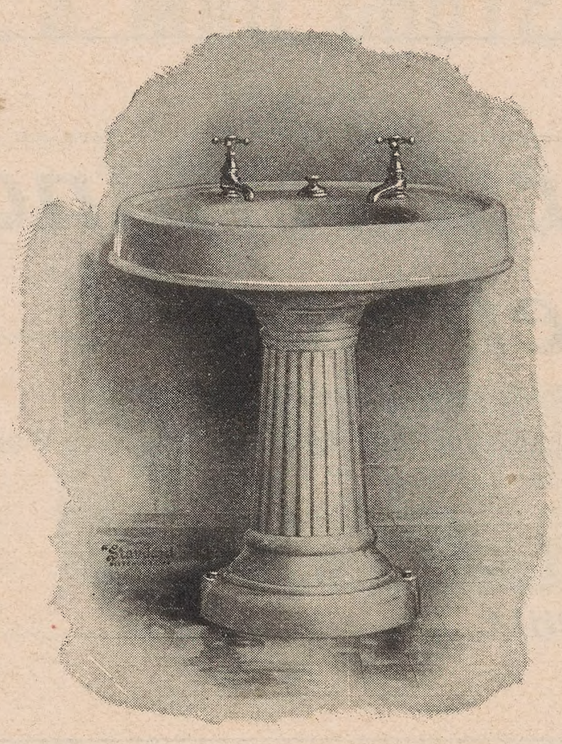
DESIGN AND DURABILITY — TRADE "Standard" MARK — UNSURPASSED

The Name **"Standard"**

IS CAST IN RELIEF ON EVERY PIECE OF THE

Porcelain Enameled Ware

That has received the highest awards at all World's Fairs and Expositions

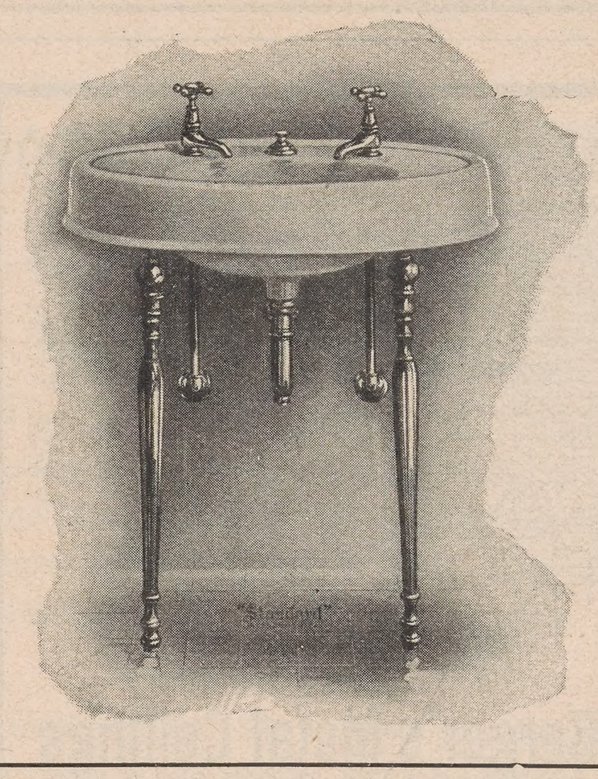


The guarantee which this name carries with it is absolute and a perfect assurance against the annoyances inseparable from the use of inferior and non-guaranteed brands.

It is essential to perfect sanitation that all sanitary equipment such as Bathtubs, Lavatories, Water Closets, etc., have a surface that is hard and absolutely non-porous.

"Standard" PORCELAIN ENAMEL provides these features in the highest possible degree, combining the daintiness and purity of china with the strength and durability of iron.

Book of Modern Bathrooms showing a series of designs, together with descriptions and prices, mailed free on application.



STANDARD SANITARY MFG. CO.,
PITTSBURGH, PA.

PORCELITE

Is the Only Enamel Paint

That has stood the test of **ten** years' wear and retained its durability, permanent **high gloss,** and has not **checked or cracked.** :: :: :: ::

Interior Woodwork
Plastered Walls
Brickwork, Metals

Paint with

PORCELITE

The Thomson Wood Finishing Co.

Varnish, Enamel and Wood Filler Manufacturers
Inventors and Sole Makers

Office, 115 N. Fourth Street
PHILADELPHIA, PA.

At the Pasteur Institute

(Paris) a commission recently tested exhaustively the respective qualities of lead and zinc paints.

They found

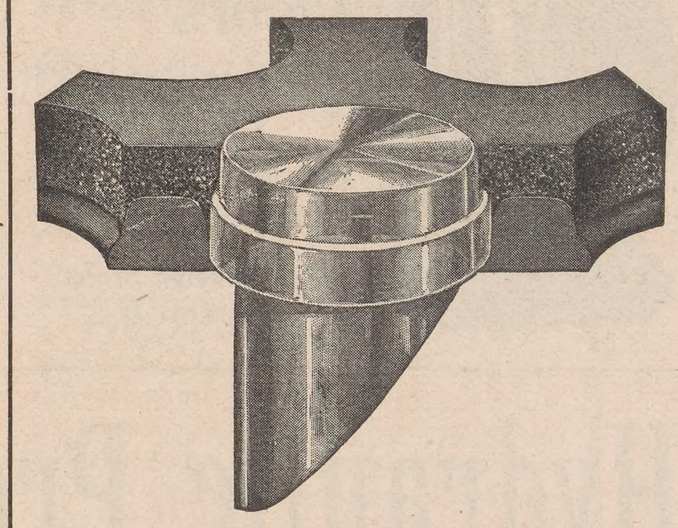
that they worked the same, covered the same, dried the same, with considerable economy on the side of zinc. Its greater durability has already been demonstrated.

FREE—Our Practical Pamphlets:
"The Paint Question,"
"Paints in Architecture,"
"Specifications for Architects,"
"French Government Decrees."

The New Jersey Zinc Co.
11 Broadway, NEW YORK.

LOUIS J. MILLET
(Successor to HEALY & MILLET)
Interior Decorator
151 MICHIGAN AVE., CHICAGO
Leaded Glass. Glass Mosaic. Frescoing

Sidewalk Lights



CONCRETE REFRACTING LENS.

SEND FOR CATALOGUE

Brown Bros. Mfg. Co.

Established in 1860

Main Office and Factory:
Twenty-second Street and Campbell Avenue
Telephone, Canal 115
Branch Office—N. W. Cor. Jackson Boul. and Clinton St.
Telephone, Main 4085

Chicago

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

The Millar Gas Machine

SAFE, DURABLE, AUTOMATIC

Simple In Construction — Economical In Operation

APPROVED BY ALL INSURANCE COMPANIES

THE MILLAR-GANTZ CO.
DIXON, ILL.

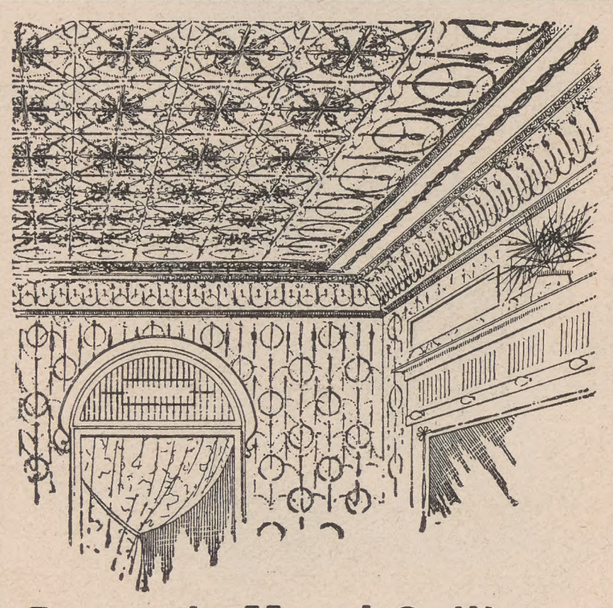
TEL. HARRISON 3652

THOMAS HAWKES
LANDSCAPE ARCHITECT

DESIGNS PREPARED FOR PARKS, CEMETERIES, PRIVATE ESTATES, SUB-DIVISIONS, ETC.

CORRESPONDENCE SOLICITED

1532 MONADNOCK BLOCK CHICAGO



Berger's Metal Ceilings

Are symmetrical and pleasing to the eye and command the admiration of all. They can be used in all classes of buildings, are easy to apply, and highly ornamental. They don't shrink, crack, get water-soaked, or fall off. They are safe and sanitary. Their durability makes them the most economical ceilings in existence. Our "Classified Designs" embrace a variety of styles, and there is no building that we can not match in its style of architecture. Send for our booklet "A New Idea in Metal Ceilings"—'tis free.

The Berger Mfg. Co., Canton, Ohio
Eastern Branch, 210 E. 23d St., N. Y.
Western Branch, 19-21 S. Main St., St. Louis, Mo.

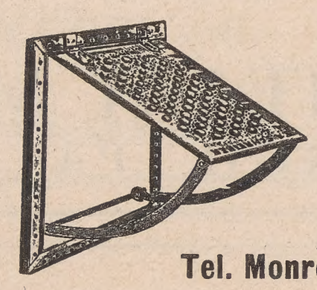
DEXTER PORTLAND CEMENT CO. — FINENESS — STRENGTH — TRADE MARK — PORTLAND — UNIFORMITY — SAMUEL H. FRENCH & CO. SOLE AGENTS PHILA. PA. — NAZARETH, PA.

Dexter Portland ...Cement...

Highest Standard Attainable for Pavement and Concrete Work.

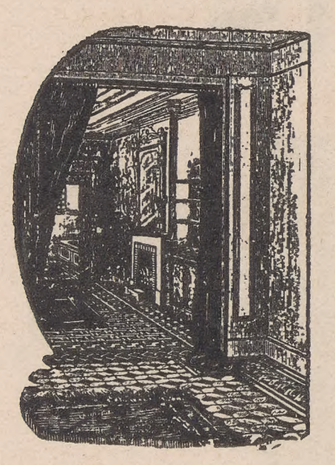
SAMUEL H. FRENCH & CO., Sole Agents,
PHILADELPHIA.

Established 1844.



AMERICAN SIDEWALK LIGHT CO.

MANUFACTURERS OF ALL KINDS OF
Concrete and Hyatt Sidewalk, Floor and Skylight Work,
AND ALL KINDS OF IRONWORK.
Coal-Hole Covers of every description always on hand.
Tel. Monroe 643. 156-158 West Ohio St., CHICAGO.



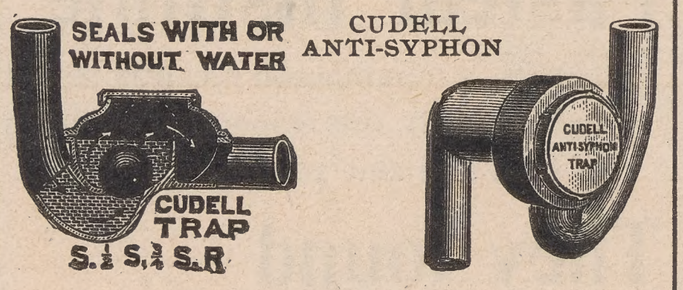
Hardwood Floors

Wood Carpets, Parquet Floors, Rug Borders.

Send for book of designs.

E. B. MOORE & CO.
37 Randolph Street,
CHICAGO, ILL.

Put into the White House by the U. S. Government.



F. E. CUDELL'S
Patent Sewer-Gas and Backwater Trap
For Wash-Bowls, Sinks, Bath and Wash Tubs,
CLEVELAND, OHIO.

W. W. ABBOTT,

MANUFACTURER OF
PICTURE FRAMES
MATS AND PASSEPARTOUTS
FRAMES MADE TO ORDER. ARCHITECTURAL DRAWINGS REMOUNTED.
Telephone Harrison 3455 — 255 Wabash Ave., CHICAGO

Hydraulic Press Brick Co.

Missouri Trust Building, ST. LOUIS, MO.

TOTAL ANNUAL CAPACITY, 300,000,000 BRICKS.

American Hydraulic Press Brick Co.,	St. Louis, Mo.
Chicago Hydraulic Press Brick Co.,	Chicago, Ill.
Cleveland Hydraulic Press Brick Co.,	Cleveland, Ohio.
Eastern Hydraulic Press Brick Co.,	Philadelphia, Pa.
Findlay Hydraulic Press Brick Co.,	Findlay and Toledo, Ohio.
Illinois Hydraulic Press Brick Co.,	St. Louis, Mo.
Kansas City Hydraulic Press Brick Co.,	Kansas City, Mo.
Kelley Brick & Tile Co.,	West Superior, Wis.
Menomonie Hydraulic Press Brick Co.,	Minneapolis, Minn.
New York Hydraulic Press Brick Co.,	Rochester, N. Y.
Ohio Press Brick Co.,	Zanesville, Ohio.
Omaha Hydraulic Press Brick Co.,	Omaha, Neb.
Union Press Brick Works,	St. Louis, Mo.
Washington Hydraulic Press Brick Co.,	Washington, D. C.

W. H. S. Lloyd Co.

REPRESENTING
A. Sanderson & Sons, of London.

ENGLISH WALL PAPERS

JAPANESE LEATHERS
GRASS CLOTH

Finest Stock of Foreign Wall Papers in U. S.

26 E. 22d St., New York

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

THE J. W. REEDY ELEVATOR CO.

Passenger and Freight

ELEVATORS.

83 to 91 Illinois Street, CHICAGO.

31-33 Tenth Avenue, NEW YORK CITY.

FOR INFORMATION ABOUT

U. S. MAIL CHUTES

WHICH ARE

A necessity in office buildings and hotels, write to the sole makers,

THE CUTLER M'F'G CO., Rochester, N. Y.

PATENTED. AUTHORIZED.

Electric Signals

FOR PASSENGER ELEVATORS

Elevator Supply and Repair Co.

136 Liberty Street, NEW YORK

34 W. Monroe Street, Tel. Main 1741 CHICAGO

WANTED

A line of medium and low priced wood mantels for 1903, by the largest distributers in the world. Address Advertiser,
811 Boyce Building, Chicago.

SUPERINTENDENT

A first-class superintendent with years of practical experience upon all classes of city work, especially large constructions, wishes to be placed in communication with architect or builder requiring such services. He is fully recommended by this office. Address Superintendent, care Inland Architect.

CRANE VALVES
ESTABLISHED 1855

"WHATEVER IS WORTH DOING AT ALL IS WORTH DOING WELL."

Telephone 555

THE HENRY O. SHEPARD COMPANY

212-214 Monroe St. CHICAGO.

Printers, Embossers Blank Book Makers

We do all kinds of Printing and Binding. Rush Work a Specialty.

. . Observe typography of THIS JOURNAL as a fair specimen of our grade of work . .

Florida and New Orleans

via

Queen & Crescent Route

Southern Railway

and connecting lines

Through Pullman service from Chicago, Cleveland, Pittsburg, Louisville, daily except Sunday; Detroit and Toledo, Tuesday, Thursday and Saturday; to St. Augustine without change.

FROM CINCINNATI

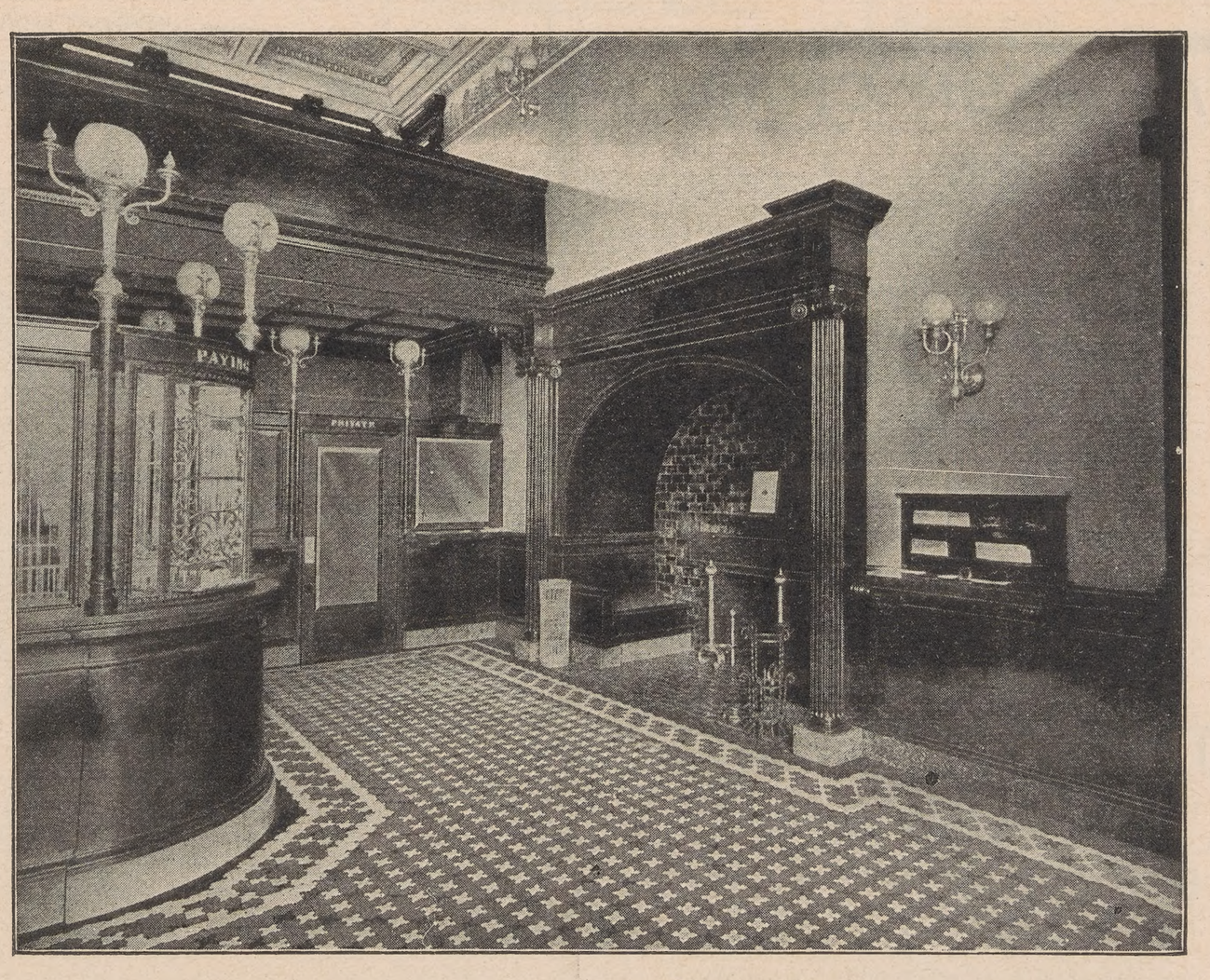
3 Trains to Florida, 8:30 a.m., 8:05 p.m., 9:15 p.m.

2 Trains to New Orleans, 8:05 p.m., 8:30 a.m.

Route to Florida either via Chattanooga, Atlanta or Jacksonville; or via Asheville and Savannah.

Write for rates and printed matter.

W. C. RINEARSON, G. P. A.,
CINCINNATI



Interlocking Rubber Tiling

As laid by us in the lobby of the County Savings Bank & Trust Co., Scranton, Pa.

Noiseless, non-slippery, waterproof, sanitary, durable. A perfect floor for offices, banking-rooms, courthouses, schoolrooms, libraries, hospital wards, cafes, bathrooms, billiard-rooms, vestibules, halls, church aisles, piazzas, etc.

Laid directly on wood, stone or iron.

Call or write.

NEW YORK BELTING & PACKING CO., Ltd.

Chicago.....150 Lake Street
New York .....25 Park Place
Philadelphia.....724 Chestnut Street
Baltimore, Baltimore Rubber Co., 101 Hopkins Place
St. Louis.....411 North 3d Street
San Francisco..... 509-511 Market Street
London, Eng., The B. & S. Folding Gate Co., 19 to 21 Tower Street, Upper St. Martin's Lane, W. C.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

THE most artistic and durable color effects on shingles are produced with Shingletint, which is a scientific combination of linseed oil, coloring matter, creosote and the necessary drying agents.

Among the many shingle stains offered, Shingletint is conspicuous not only for its superiority but because it can be called for by its distinctive name, thus offering the consumer protection against inferior goods offered for the same purpose.

When buying Shingle Stains it will be worth while to ignore the "just as good" argument and insist upon Shingletint.

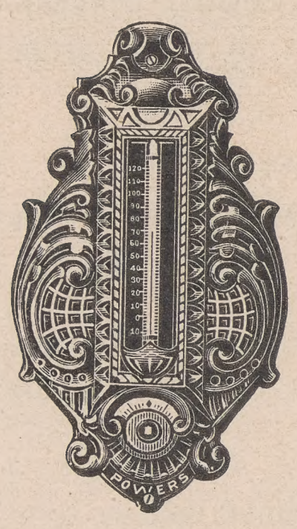
Stained woods and descriptive literature sent free upon request.

BERRY BROTHERS, Ltd.,
Varnish Manufacturers,

New York Philadelphia Chicago St. Louis
Boston Baltimore Cincinnati San Francisco
Factory and Main Office, DETROIT

JENKINS BROTHERS' VALVES

Perfectly tight under all pressures of steam, oils or acids.
Warranted to give satisfaction under the worst conditions.
Received the Highest Award GOLD MEDAL at the Pan-American Exposition
Insist on having the genuine stamped with Trade-Mark.
JENKINS BROTHERS, NEW YORK, BOSTON, PHILADELPHIA, CHICAGO



Avoid Extremes of Heat and Cold

BY USING

THE POWERS SYSTEM

OF

Temperature Regulation.

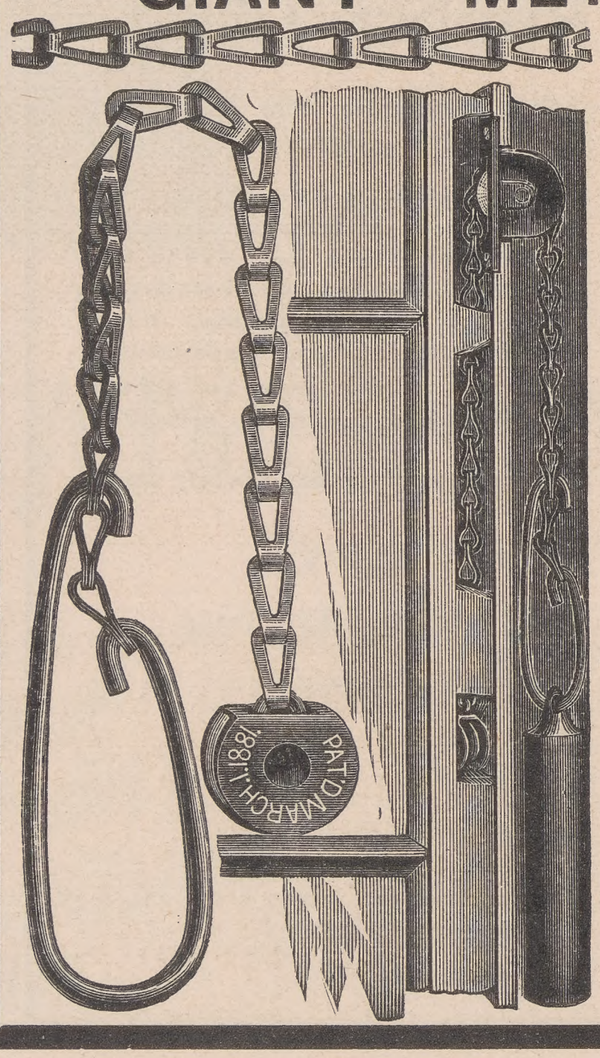
Applicable to all kinds of heating apparatus in Schools, Churches, Residences, Office Buildings, etc.

Successfully applied to the control of heat in RAILWAY CARS.

SEND FOR CATALOGUES.

The Powers Regulator Co., 40 Dearborn Street, Chicago.
111 Fifth Avenue, New York. 224 Franklin Street, Boston.

"GIANT" METAL SASH CHAIN



Has not been equaled in quality in 20 years. Durability guaranteed. The bronze costs 40 per cent more than any other Sash Chain metal.

Full line of Sash and Cable Chains, Sash Pulleys and Fixtures.

MANUFACTURED BY

THE SMITH & EGGE MFG. CO.
BRIDGEPORT, CONN.

WRITE FOR OUR LATEST CATALOGUE.

A Profitable Way to see The West

is to join one of the personally conducted California excursions of the Santa Fe Route.

Congenial companions are assured.

Special conductors relieve you of all care and contribute materially to your enjoyment.

No extra charge.

Inquire of

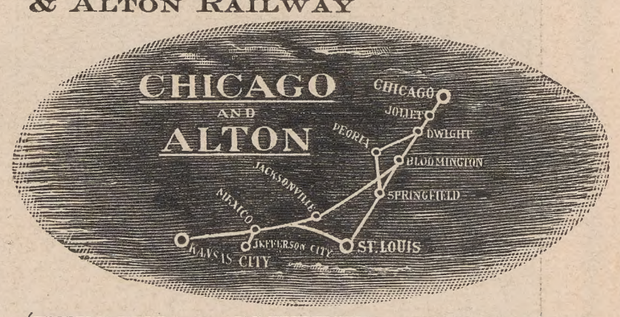
T. A. GRADY,
Manager California Tourist Service,
The Atchison, Topeka & Santa Fe Railway,
109 Adams Street, Chicago.

Sheet-Steel Indian Canoes
Non-sinkable and indestructible. 14 feet long, 39 inch beam.

Twenty-Two Dollars, Net. EXTRA FOR FISH FOX AND SECTIONAL BOAT.
W. H. MULLINS, 310 Depot St., SALEM, OHIO.

THE ALTON'S ENGINEER.

IF YOU WILL SEND THE ADDRESS OF A PERSON WHO, WITHIN A YEAR, WILL HAVE USE FOR THE CHICAGO & ALTON RAILWAY



(TERRITORY COVERED OUTLINED IN ABOVE MAP), WE WILL MAIL TO YOU A PICTURE, 4½ X 3 INCHES, OF THE ALTON'S ENGINEER. IF, IN ADDITION, YOU WILL TELL US IN WHAT PUBLICATION YOU READ THIS ADVERTISEMENT, WE WILL SEND TO YOU A PAMPHLET ABOUT THE BIGGEST CAMERA IN THE WORLD.

GEO. J. CHARLTON,
GENERAL PASSENGER AGENT, CHICAGO & ALTON RAILWAY,
CHICAGO, ILLINOIS.

INDEX TO ADVERTISEMENTS.

Page

Architectural Drawing.
Deane, E. Eldon XV

Architectural Iron Works.
The Winslow Bros. Co..... II
American Sidewalk Light Co. IX

Architectural Photographers.
Taylor, J. W..... XI

Architectural Views.
Taylor, J. W..... XI

Boats.
W. H. Mullins..... X

Boiler Covering.
The Keasbey & Mattison Co. XII

Bricks (Pressed).
Chicago Hydraulic Press Brick Co IX
Findlay Hydraulic Press Brick Co IX
Illinois Hydraulic Press Brick Co IX
Kansas City Hydraulic Press Brick Co IX
Menominee Hydraulic Press Brick Co IX
Omaha Hydraulic Press Brick Co IX
St. Louis Hydraulic Press Brick Co IX

Brick (Enameled).
Hydraulic Press Brick Co ... IX

Brick (Ornamental).
Chicago Hydraulic Press Brick Co IX
Findlay Hydraulic Press Brick Co IX
Hydraulic Press Brick Co ... IX
Illinois Hydraulic Press Brick Co IX
Kansas City Hydraulic Press Brick Co IX
Menominee Hydraulic Press Brick Co IX
Omaha Hydraulic Press Brick Co IX

Builders' Hardware.
Orr & Lockett..... XVI
The Yale & Towne Mfg. Co. XVI

Builders' Sundries.
The Yale & Towne Mfg. Co. XVI

Building Papers.
Cabot, Samuel XII

Cements.
French, S. H., & Co VI

Clothes Dryers.

Cordage.
Samson Cordage Works XVI

Creosote Stains.
Cabot, Samuel XII

Decorators' Supplies.

Drawing Material and Implements.
Abbott, A. H., & Co..... XII

Page

Electric Plants.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Elevators.
The J. W. Reedy Elevator Co VII

Elevator Supplies.
Elevator Supply & Repair Co. VII

Engineers.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Fireproof Doors.
Kinnear Mfg. Co. X

Fireproof Shutters.
Kinnear Mfg. Co..... X

Fire Extinguisher.
Yantacaw Mfg. Co XII

Fireproofing.
National Fireproofing Co .. XIV
Pioneer Fireproofing Co.... XIV
The Roebling Construction Co..... XII

Floor Polish.
Butcher Polish Co XV

Gas Engines.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Grilles.
Waddell Mfg. Co..... X

Hardware.
The Yale & Towne Mfg. Co. XVI

Heating.
Buffalo Forge Co..... XIII
B. F. Sturtevant Co III

Heating and Ventilating Apparatus.
Buffalo Forge Co..... XIII
Pierce, Butler & Pierce..... XVI
B. F. Sturtevant Co III
Kellogg-Mackay-Cameron Co. XI

Ice and Refrigerating Machinery.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Instruction.

Interior Finish.
Battle Creek Interior Finish Co II

Locks.
The Yale & Towne Mfg. Co. XVI

Mail Chutes.
Cutler Manufacturing Co... VII

Mechanical Stokers.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Metal Ceilings.
Berger Mfg. Co VI

Page

Metallic Fixtures and Furniture.
Art Metal Construction Co . III

Monuments.
Blake, Chas. G., & Co..... XII

Mortar Colors.
French, S. H., & Co..... VI

Moldings, Mirrors, Frames.
W. W. Abbott..... IX

Paints, Oils and Varnishes.
Berry Bros VIII
Joseph Dixon Crucible Co.. XV
New Jersey Zinc Co V
Pitkin, Geo. W., Co..... II
Smith, Edward, & Co XVI

Pencils.
Joseph Dixon Crucible Co .. VI

Plumbers' Fittings.
Crane Co.....VI, XIV
Standard Sanitary Mfg. Co. V

Printers.
The H. O. Shepard Co VII

Railroads.
Big Four Route XV
Chicago & Alton..... VII, X
Chicago & North-Western R'y X
Chicago, Milwaukee & St. Paul..... IX
Delaware, Lackawanna & Western XIV
Denver & Rio Grande R. R. XV
Grand Trunk Lines IX
Illinois Central..... XIV
The Lake Shore Route XVI
Monon and C. H. & D. Route XI
Missouri Pacific R'y VIII
New York Central R. R..... IV
Queen & Crescent Route.... VII
Rio Grande & Western..... VI
Southern R'y X
Southern Pacific Co..... X
Santa Fe Route X
Wisconsin Central..... XV

Reflectors.
Frink, I. P..... XV

Roofing Tile.
National Tile Roofing Co.... II

Roofing Tin.
N. & G. Taylor Co III

Rolling Doors and Shutters (steel).
Kinnear Mfg Co X

Sanitary Appliances.
Cudell, F. E..... IX
Standard Sanitary Mfg. Co. V

Sash Cords and Chains.
Smith & Egge Mfg. Co VIII
Samson Cordage Works.... XVI

Sash Locks.
The W. & E. T. Fitch Co.... II

Sheathing and Deadening Quilt.
Cabot, Samuel XII

Shingle Stain.
Berry Bros VIII
Cabot, Samuel XII
Dexter Bros..... XV

Page

Sidewalk and Vault Lights.
Brown Bros. Mfg. Co V
Richards & Kelly..... VII
American Sidewalk Light Co. IX

Skylights (Metal).

Snow Guards.
Folsom Snow Guard Co..... X

Spring Hinges.
Smith & Egge Mfg. Co..... X

Stained and Decorative Glass.
Louis J. Millet V

Steam Engines.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Steam Fittings.
Crane Co..... XV

Steam Loops.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Steel Rolling Doors.
Kinnear Mfg. Co X

Steel Rolling Shutters.
Kinnear Mfg. Co..... X

Steel Shutters.
American Sidewalk Light Co. IX
Kinnear Mfg. Co X

Stokers.
Westinghouse, Church, Kerr & Co IV
The Westinghouse Machine Co IV

Temperature Regulator.
The Powers Regulator Co... VIII

Terra Cotta.
Northwestern Terra-Cotta Works II
Winkle Terra Cotta Co IV

Tile (Rubber).
New York Belting & Packing Co., Ltd..... VII

Trees.
Peterson, P. S., & Son..... X

Valves (Steam).
Jenkins Bros..... X
Crane Co.....VII, XIV

Varnish.
Chicago Varnish Co..... X

Ventilation.
Buffalo Forge Co..... XIII

Wall Papers.
W. H. S. Lloyd Co..... IX

Window Lines.
Samson Cordage Works.... XVI

Wood Carpet.
Moore, E. B., & Co..... VI

EXPANSION IN THE WEST

Increased trade with the Orient and wonderful commercial activity are 1903 features along the Pacific Coast.

ONLY **$33.00**

Chicago to San Francisco, Los Angeles, Portland, Tacoma, Seattle

And many other Pacific Coast points,

Until June 15, 1903,

Via Chicago, Milwaukee & St. Paul and Union Pacific Line.

Three through trains daily to the Northwest via this route, or via St. Paul.

Information on request.

F. A. MILLER, General Passenger Agent

CHICAGO.

DRAFTSMEN WANTED

Permanent positions for high-class draftsmen of education and experience.

GREEN & WICKS

ARCHITECTS

110 Franklin St. - Buffalo, N. Y.

TREES and SHRUBS

NOW IS THE TIME TO ORDER

PETERSON NURSERY

164 La Salle St. CHICAGO

Send for Illustrated Price List

SOUTHERN PACIFIC

SUGGESTS

CALIFORNIA

PROMISES

Blue Skies, Shining Seas, Snowy Mountains
Vineyards, Orchards, Grain Fields
Wealth, Health, Prosperity, and Happiness

FROM **CHICAGO** **$33**

commencing February 15, continuing until April 30.

Choice of routes east of Ogden, El Paso and New Orleans.
Highest class tourist car service.

Address any Southern Pacific Agent.

W. G. NEIMYER, General Agent, 193 CLARK ST., CHICAGO, ILL.

Western North Carolina in the Spring

WESTERN North Carolina is attractive at any season of the year, but certainly during the Spring months, when the trees are budding and the flowers blossoming, what could be more inviting than a trip to this beautiful mountain country.

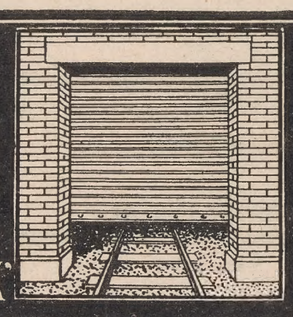
The months of April and May in the Land of the Sky and Sapphire Country, including Asheville and Hot Springs, N. C., are very enjoyable. The climate at this season is delightful, the scenery most beautiful, and the opportunities for the enjoyment of sport, including golf, can not be surpassed.

The hotels in this region afford the very best accommodations. If you wish to know something of this delightful region, communicate with your nearest Ticket Agent, or address

J. S. McCullough, N. W. P. A.,
Southern Railway,
225 Dearborn St.,
Chicago, Ill.

G. B. Allen, A. G. P. A.,
St. Louis, Mo.

KINNEAR **STEEL ROLLING** DOORS SHUTTERS
SEND FOR CATALOGUE 'K'



BOSTON - 85 WATER ST.
NEW YORK - 45 VESEY ST.
CHICAGO - 112 CLARK ST.
PHILADELPHIA ~ 1011 CHESTNUT ST.

THE KINNEAR MFG. CO. COLUMBUS OHIO, U.S.A.

Folsom New Model Snow Guard

Specified by leading architects to hold the snow on all pitch roofs, entirely obviating all chance of injury to life or to the property it protects. The only perfect device for this purpose. It is made in various forms for old and new roofs of slate, shingle, tile or metal. Full information on application.

THREE HISTORIC BUILDINGS.
Faneuil Hall,
Old South Church,
King's Chapel,
Boston,
Are Fitted with this Snow Guard.

FOLSOM SNOW GUARD CO.
ROSLINDALE (BOSTON), MASS.

SITUATION WANTED.

A quiet young lady who has finished a technical course in mechanical drawing and is experienced in designing, would like to work in an architect's office in Chicago.
Address "A. B.,"
Office of Inland Architect.

THE NORTH-WESTERN LINE

To the West

The North-Western Line is the only double track railway from Chicago to the Missouri River.

The double track is now completed between Chicago and Council Bluffs. Four fast trains each way daily between Chicago and Omaha, three trains daily to the Pacific Coast and two to Denver.

A double track railway across the western prairies means a great deal of history-making, empire-building, American energy.

The story of the western country and of the Pioneer Line that has played so great a part in its progress is interestingly told in a booklet which will be sent on receipt of a two-cent stamp to pay postage.

W. B. KNISKERN, Passenger Traffic Manager,
CHICAGO

J. W. TAYLOR,

REMOVAL NOTICE:

After May 1, 1902, Monon Bldg., 324 Dearborn St. Telephone No. 1500 Harrison.

ARCHITECTURAL PHOTOGRAPHS,

BUILDINGS, INTERIORS, DETAILS, ETC.

Promise to purchase two dozen from the lot at $4.00 per dozen, unmounted, and I will send 200 from which to make the selection.

French Lick and West Baden Springs

Adjoining Resorts in Indiana

On the MONON ROUTE

Wonderful curative waters for diseased conditions of the digestive organs; magnificent fireproof modern hotels; rest, recuperation and recreation. Two trains daily via Monon Route.

Round-Trip Excursion Rate From Chicago $12.45

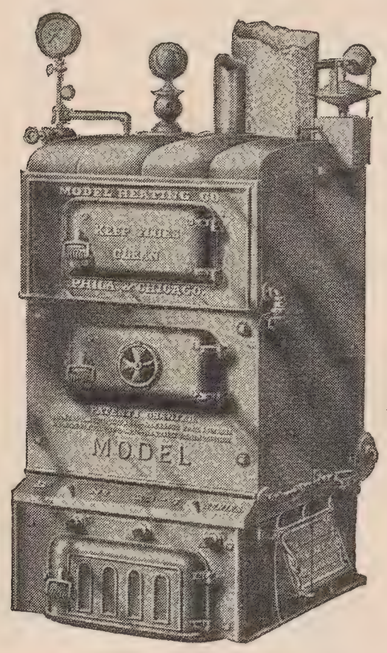
Folders and facts free. Address

CHAS. H. ROCKWELL, Traffic Manager FRANK J. REED, G. P. A.

200 Custom House Place, Chicago.

Successful Boilers

AND RADIATORS



ONE OF 36 STYLES

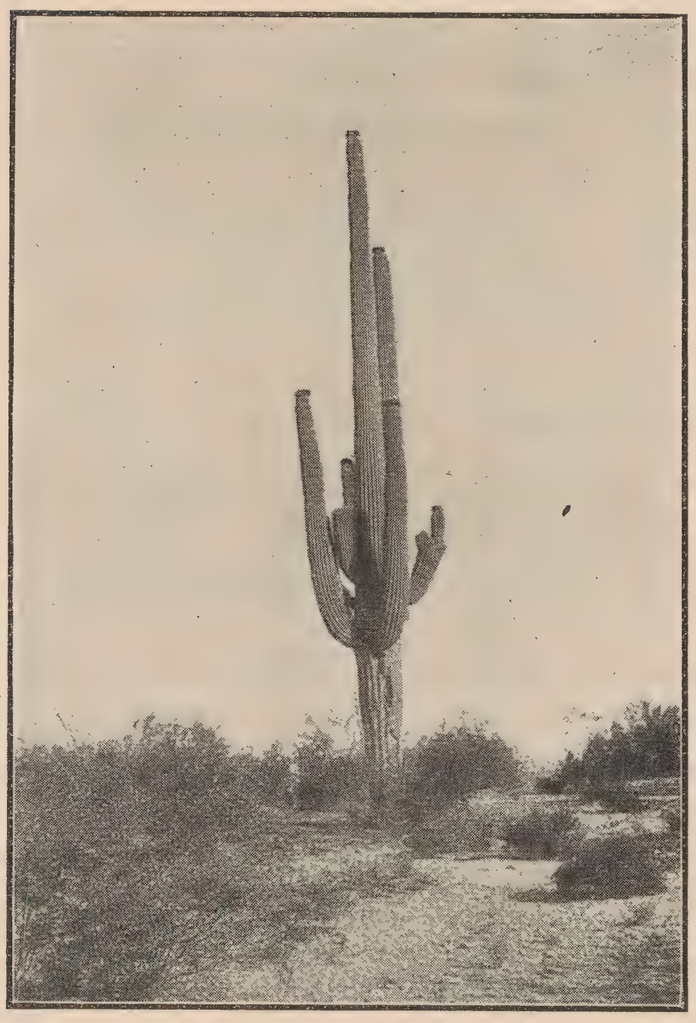
Our Catalogue, "The Boiler Magazine," sent on request, is the best ever

Kellogg=Mackay=Cameron Co.

CHICAGO

MINNEAPOLIS KANSAS CITY

SEATTLE, WASH.



WHAT ONE SEES

FROM

GULF to OCEAN

ON

Sunset Route

ADDS

Zest to Travel

Missions, Mirages, Aztec Ruins, Frontier Forts, Cotton Fields, Rice Culture, Sugar Plantations, Palms and One Hundred Miles Beside the Sea.

A Continuous Change of Scene

Heavy Rails and Oiled and Dustless Track

Folders and booklet from

W. G. NEIMYER, GENERAL AGENT, SOUTHERN PACIFIC

193 CLARK STREET, CHICAGO

"Greatest Success of Its Age."

THE FOUR-TRACK NEWS

AN ILLUSTRATED MAGAZINE OF TRAVEL AND EDUCATION

Published Monthly by

GEORGE H. DANIELS

Gen'l Passenger Agent

NEW YORK CENTRAL

& HUDSON RIVER R. R.

THE FOUR-TRACK NEWS will be sent free to any address in North America for 50 cents a year; foreign countries, $1.00. Single copies, 5 cents. Sold by all newsdealers. Address, George H. Daniels, General Passenger Agent, Grand Central Station, New York.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

CABOT'S
Sheathing and Deafening
"Quilt"

In a series of exhaustive tests against five other methods, conducted by Prof. C. L. Norton, Quilt construction proved to be by far the most sound-proof, and it was cheaper, lighter, thinner and simpler than any other.

Samples and Particulars on Request

Samuel Cabot
Sole Manufacturer

28 Dearborn Avenue
CHICAGO

70 Kilby Street
BOSTON

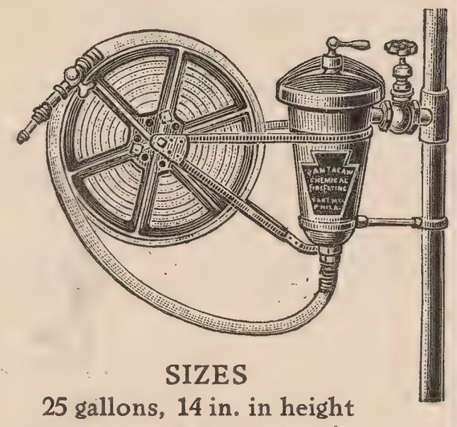
VIRGINIA APARTMENTS, MINNEAPOLIS
HARRY W. JONES, ARCHITECT

The Yantacaw Chemical Fire Extinguisher

NO Acid used, nor poisonous gas generated
Danger from explosion
Danger from Chemical or stream to person or fabric
Periodical recharging, testing or polishing

Always in the accustomed place and ready for instant use.
No mechanism to become defective.
Can be recharged in from twelve to twenty seconds.
Much more powerful and efficient than carbonic acid gas machines.
Made in various sizes capable of charging 25, 50 and 100 gallons of water without recharging; with the twin Yantacaw, a continuous charged stream can be obtained.

SEND FOR DESCRIPTIVE BOOKLET



SIZES
25 gallons, 14 in. in height
100 gallons, 36 in. in height

Yantacaw Manufacturing Co., 809 LAND TITLE BUILDING, PHILADELPHIA.

The Roebling System of Fire-Proof Construction.

HIGHEST EFFICIENCY IN THE FIRE AND WATER TESTS OF THE NEW YORK BUILDING DEPARTMENT, AND NOW THE RECOGNIZED STANDARD OF FIRE-PROOF CONSTRUCTION.

THE ROEBLING CONSTRUCTION CO.,

121 Liberty Street, NEW YORK CITY.

171 Lake Street, CHICAGO, ILL.

SEND FOR CATALOGUE.

BRANCH OFFICE
67TH AND ELLIS AVENUE

SEND FOR OUR FIGURES

when you have

Anything in GRANITE

from a door-sill or polished column to a Mausoleum.

CHAS. G. BLAKE & CO.

Telephone 115 **748 Woman's Temple, CHICAGO, ILL.**

N. B.—We have some of the best granite carvers in the world. Try us with some capitals.

DRAWING INSTRUMENTS

A. H. ABBOTT & CO.
Drawing Supplies,

Instruments, Tracing Cloth, Papers, Colors
Scales, Levels, Transits, Etc.
BLUE PRINTS.
50 Madison Street, CHICAGO.

MAGNESIA
Steam Pipe Coverings

HEAVY DAMAGES
TO BE COLLECTED AGAINST ALL INFRINGERS

IN THE SUITS against the
Philip Carey Manufacturing Company
American Magnesia Company
American Magnesia Covering Company
Schoellkopf, Hartford & Hanna Co.

The Court has required the defendants to make answer to our bill.

THEIR DEMURRER OVERRULED

Suit has been entered against the C. W. Trainer Manufacturing Co., of Boston.

All persons are warned not to engage in any piracy of our patents, as suits will promptly follow against all Infringers.

Keasbey & Mattison Company
AMBLER, PENN.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

RESIDENCE OF HARRISON GRAY OTIS, LOS ANGELES, CALIFORNIA.

JOHN P. KREMPEL, ARCHITECT.

RESIDENCE, LOS ANGELES, CALIFORNIA.

ST. MARY'S ACADEMY, NOTRE DAME, INDIANA.

EGAN & PRINDEVILLE, ARCHITECTS, CHICAGO.

ACADEMY OF THE SACRED HEART, LAKE FOREST, ILLINOIS.

EGAN & PRINDEVILLE, ARCHITECTS, CHICAGO.

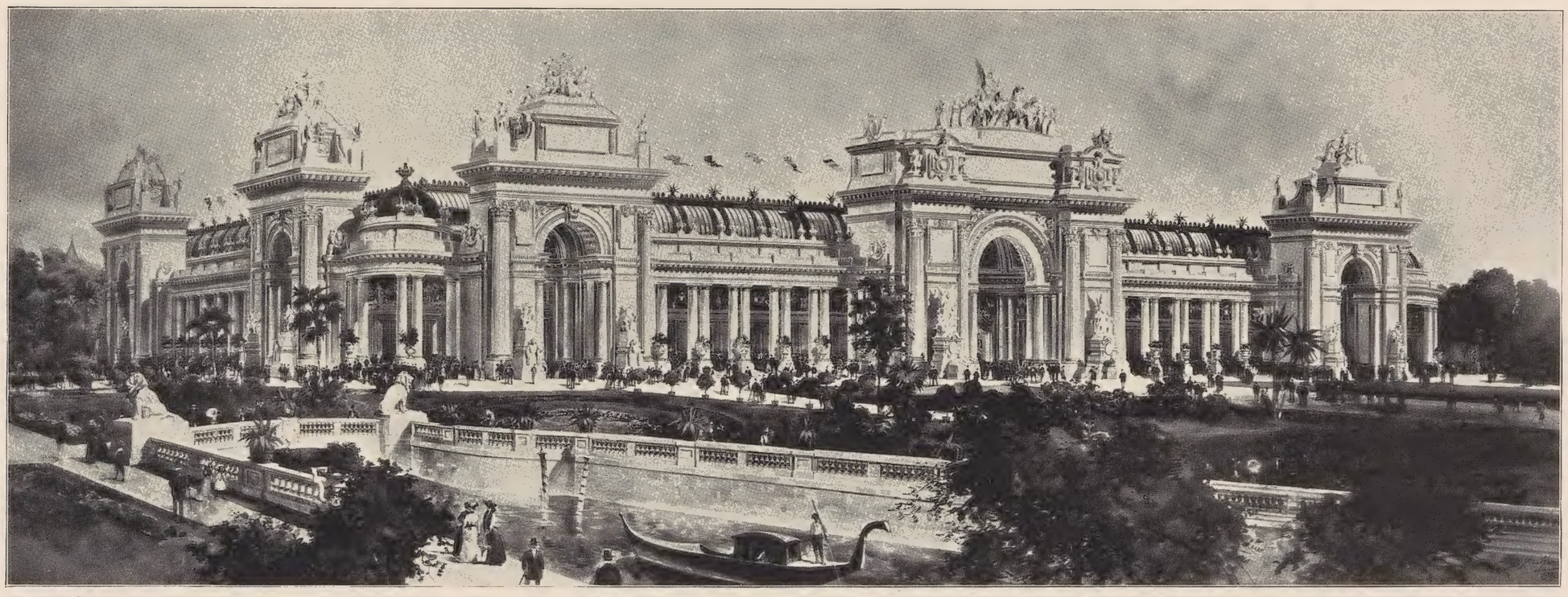
RESIDENCE AT TOLEDO, OHIO.

G. S. MILLS, ARCHITECT.

RESIDENCE AT BUFFALO, NEW YORK.

REAR VIEW, LIBERAL ARTS BUILDING, LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1904.

BARNETT, HAYNES & BARNETT, ARCHITECTS.



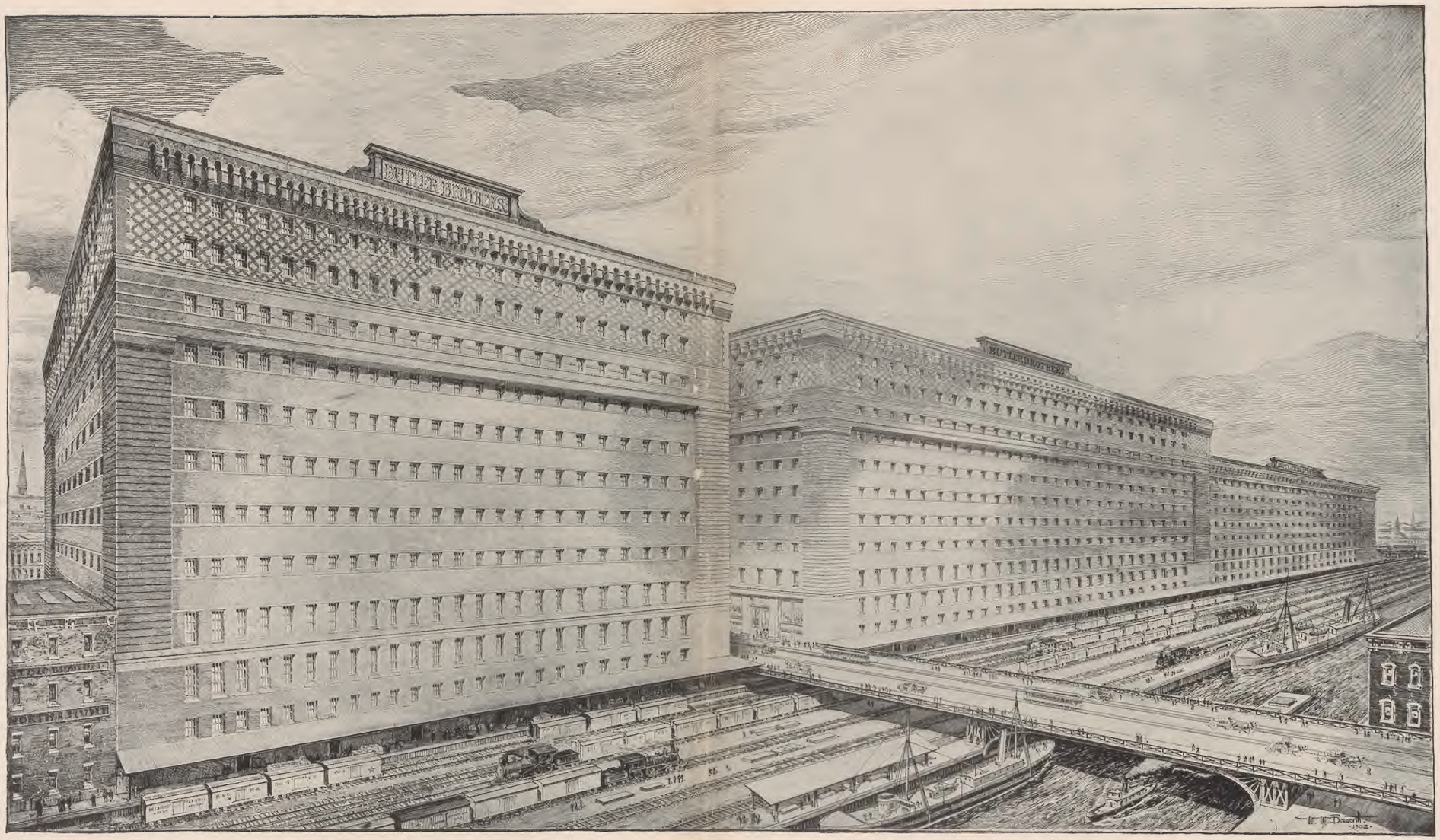
FRONT VIEW, LIBERAL ARTS BUILDING, LOUISIANA PURCHASE EXPOSITION, ST. LOUIS, 1904.

BARNETT, HAYNES & BARNETT, ARCHITECTS.

Bedford Stone from the
Old Hoosier Quarry of the
Bedford Quarries Co., Chicago.

ACCEPTED DESIGN FOR ST. PAUL'S CATHEDRAL, PITTSBURG, PENNSYLVANIA.

EGAN & PRINDEVILLE, ARCHITECTS, CHICAGO.



WHOLESALE PREMISES FOR BUTLER BROTHERS, CHICAGO.

JARVIS HUNT, ARCHITECT.

INLAND ARCHITECT PRESS.

FIRST CHURCH OF CHRIST SCIENTISTS, DENVER, COLO.

VARIAN & STERNER, ARCHITECTS.

Negative by R. W. Williams. INLAND ARCHITECT PRESS.

SOLDIERS' AND SAILORS' MONUMENT, NEW YORK CITY.

P. E. DUBOY AND C. W. & A. A. STOUGHTON, ARCHITECTS.

Inland Architect Press.

RESIDENCE FOR MR. GRANT, DENVER, COLO.

Theo. David Boal, Architect.

INLAND ARCHITECT PRESS.

SCHOOL BUILDING.

Bedford Stone.

INLAND ARCHITECT PRESS.

RESIDENCE FOR M. BORN, CHICAGO.

FROST & GRANGER, ARCHITECTS.

Negative by R. W. Williams. INLAND ARCHITECT PRESS.

BUILDING FOR SOUTH JERSEY GAS, ELECTRIC AND TRACTION CO., TRENTON, N. J.

W. M. POLAND, ARCHITECT.

Bedford Stone.

Inland Architect Press.

RESIDENCE FOR SIMON MANDEL, CHICAGO.

Frost & Granger, Architects.

Bedford Stone, from the Old Hoosier Quarry of the Bedford Quarries Co., Chicago.

INLAND ARCHITECT PRESS.

APARTMENT BUILDING, NEW YORK CITY.

HORGAN & SLATTERY, ARCHITECTS.

THE INLAND ARCHITECT AND NEWS RECORD

Vol. XLI. APRIL, 1903. No. 3

THE INLAND ARCHITECT AND NEWS RECORD

A Monthly Journal Devoted to

ARCHITECTURE,

CONSTRUCTION, DECORATION AND FURNISHING

IN THE WEST.

PUBLISHED BY THE INLAND PUBLISHING CO.,
609-610 MANHATTAN BUILDING, CHICAGO, ILL.

L. MULLER, Jr., Manager. ROBERT CRAIK McLEAN, Editor.

SPECIAL CONTRIBUTORS:

C. HOWARD WALKER. D. H. BURNHAM, W. L. B. JENNEY,
HENRY VAN BRUNT, P. B. WIGHT, IRVING K. POND,
LOUIS H. SULLIVAN, ALLEN B. POND, J. R. WILLETT,
WILLIAM S. MACHARG. C. E. ILLSLEY. F. W. FITZPATRICK.

TERMS: Regular number, $5 a year; Photogravure edition, $10 a year. Single copies, Regular number, 50c.; Photogravure edition (including 7 photogravures), $1. Advance payment required.

The columns and illustration pages of THE INLAND ARCHITECT are open to all alike, merit and availability only determining what shall be published. Contributions appropriate to its pages are always desired.

AMERICAN INSTITUTE OF ARCHITECTS.

OFFICERS FOR 1900:

PRESIDENT	*CHARLES F. MCKIM, New York, N. Y.
SECRETARY AND TREASURER	*GLENN BROWN, Washington, D. C.
FIRST VICE-PRESIDENT .	FRANK MILES DAY, Philadelphia, Pa.
SECOND VICE-PRESIDENT .	ALFRED STONE, Providence, R. I.
AUDITOR FOR TWO YEARS .	W. G. PRESTON, Boston, Mass.
AUDITOR FOR ONE YEAR .	S. A. TREAT, Chicago, Ill.

BOARD OF DIRECTORS:

For three years.—Walter Cook, New York, N. Y.; William S. Eames, St. Louis, Mo.; Cass Gilbert, St. Paul, Minn.

For two years.—J. M. Carrère, New York city; James W. McLaughlin, Cincinnati, Ohio; R. Clipson Sturgis, Boston, Mass.

For one year.—Henry Van Brunt, Kansas City, Mo.; James B. Hill, Washington, D. C.; Normand S. Patton, Chicago, Ill.

*Executive Committee.

STANDING COMMITTEES FOR 1900:

Judiciary Committee.—Wm. S. Eames, St. Louis, Mo.; James G. Hill, Washington, D. C.; Arthur G. Everett, Boston, Mass.

House and Library Committee.—Robert Stead, Washington, D. C.; Glenn Brown, Washington, D. C.; Frank Miles Day, Philadelphia, Pa.

Committee on Contracts and Lien Laws.—Alfred Stone, Providence, R. I.; W. B. Mundie, Chicago, Ill.; Arthur G. Everett, Boston, Mass.

Committee on Applied Arts and Sciences.—W. G. Preston, Boston, Mass.; F. E. Kidder, Denver, Colo.; Frederick Baumann, Chicago, Ill.

Committee on Foreign Correspondence.—Glenn Brown, Washington, D. C.; J. G. Howard, New York city; R. W. Gibson, New York city.

Legislative Committee on Government Architecture.—George B. Post, chairman. Committee—Bruce Price, New York city; John M. Carrère, New York city; James G. Hill, Washington; Alfred Stone, Providence. Alternates—Edward H. Kendall, New York city; E. B. Green, Buffalo, N. Y.; D. H. Burnham, Chicago, Ill.; Robert Stead, Washington.

NEXT CONVENTION AT CLEVELAND, OHIO.

THE ARCHITECTURAL LEAGUE OF AMERICA.

OFFICERS FOR 1901-1902.

PRESIDENT	FREDERICK S. LAMB, New York.
VICE-PRESIDENT	C. H. BLACKALL, Boston, Mass.
TREASURER	JULIUS F. HARDER, New York.
CORRESPONDING SECRETARY . . .	H. K. BUSH-BROWN, New York.
RECORDING SECRETARY	W. E. STONE, New York.
ADDITIONAL MEMBERS EXECUTIVE BOARD	F. CROWNINSHIELD, New York. D. K. BOYD, Philadelphia.

NEXT CONVENTION AT ST. LOUIS, MO., OCTOBER 12-13, 1903.

Obsolete Methods of Fireproofing Condemned.

The folly of using obsolete methods to carry out modern design is nowhere more forcibly exemplified than in the too prevalent practice of fireproofing by the use of concrete. That the method makes the structure fireproof has been its greatest claim, but the accidents that have attended such construction throughout the country show that its fireproofing quality is offset by its dangerous instability, for, when unskilful application or freezing weather or any one of the many destructive elements becomes a factor in the construction, then, even if there were none other as good for the purpose, the advisability of its use would be doubtful. But when the fireproofing experts of the country have, for twenty years, studied the application of hollow tile to the modern methods of building, and the lightness of structure and the required elasticity of frame are secured, so that there is no question of its general stability or its action under fire and water tests, then the futility of using other methods seems unquestionable. We should know better now. The collapse of the bank building at Newcastle and the Johnson electric building at Milwaukee should be sufficient lessons to owners who wish to use obsolete methods, and architects and contractors who value their professional reputations. It takes a long time for either to recover from such an accident, whatever may be the cause. In this case it is entirely useless to take the risk, for the methods of fireproofing with hollow tile are theoretically and practically as perfect as any of the modern methods of construction with which they have kept pace.

Death of Architect Henry Van Brunt.

Henry Van Brunt died at Milton, Massachusetts, on April 8. He was born in Boston, September 5, 1832, and was the son of a commodore in the United States Navy and a grandson of David Bradlee. He graduated from Harvard in 1854, and, during the Civil War, served in the North Atlantic squadron of the Navy. His professional life was largely spent in Boston, where he practiced for twenty years, and achieved a reputation as the designer of buildings for Harvard, as well as churches, public libraries, etc., throughout New England. In 1887 Mr. Van Brunt removed his practice to Kansas City, joining his old friend and partner, F. M. Howe, who had preceded him two years before, and had been his partner since 1879. Spending a year abroad, in 1890, he returned to be selected one of the ten architects for the designing of the Columbian Exposition, for which he designed the Electricity building, and his critical knowledge had much influence upon the general plan. As an architectural critic Mr. Van Brunt stood first among the practicing members of his profession. His volume on "Greek Lines" is a classic, and his essays and contributions to architectural journals and literary magazines are among the best in architectural literature. He also translated Violet le Duc's "Discourses on Architecture," and in verse his "Romanesque Doorway" is singularly quaint and charming. The affection in which he was held by all who knew him testifies to the rare sweetness and nobility of his character.

day, hurled from a tottering bridge to sink or swim in the mad torrents below.

In America it must be admitted we have no auditorium to compare in beauty with France's pride, nor perhaps have we any constructed in such thoroughly and substantially fireproof manner as the latest ones in England. But Yankee ingenuity, inventiveness and resourcefulness have always shed honor on the American race, and perhaps nowhere more so than in the theaters of the Western world. The American architect has not alone studied the beauty of his building, nor only its stability and safety. While considering these things and seeking for them, he has also had an eye for the public health and comfort, and for a seating capacity increased and rearranged on scientific lines. And as a result he has built theaters (the modern ones) which in clever arrangement of ground plan, in straightforward and easy aisles and passages, in ventilation and sanitation, in doing away with obstruction of view and in bringing the audience closer to the actor, in all these matters of health and comfort for the audience, his theaters are a generation in advance of European practices. In the American theater the balconies have been brought forward and the average distance of seats from stage thereby greatly lessened, and in connection with, and as a necessary adjunct of this improvement, there has been introduced the extreme system of cantilever construction for balconies, by which all columns are obviated and removed, as for instance in Chicago's Dearborn theater, a masterpiece in this kind of engineering, with balconies thrown well forward, not a column to be seen and a beautiful and harmonious interior besides. And remember! This boon for the spectator, in bringing him close up to the stage and giving an unobstructed vision, was an extremely bold stroke, involving as it did a totally different, novel and much more difficult design for interior than the easy post-and-lintel system of the arena-like theaters of Europe. How well this difficult problem has been met and solved may be seen to-day in many of our modern playhouses.

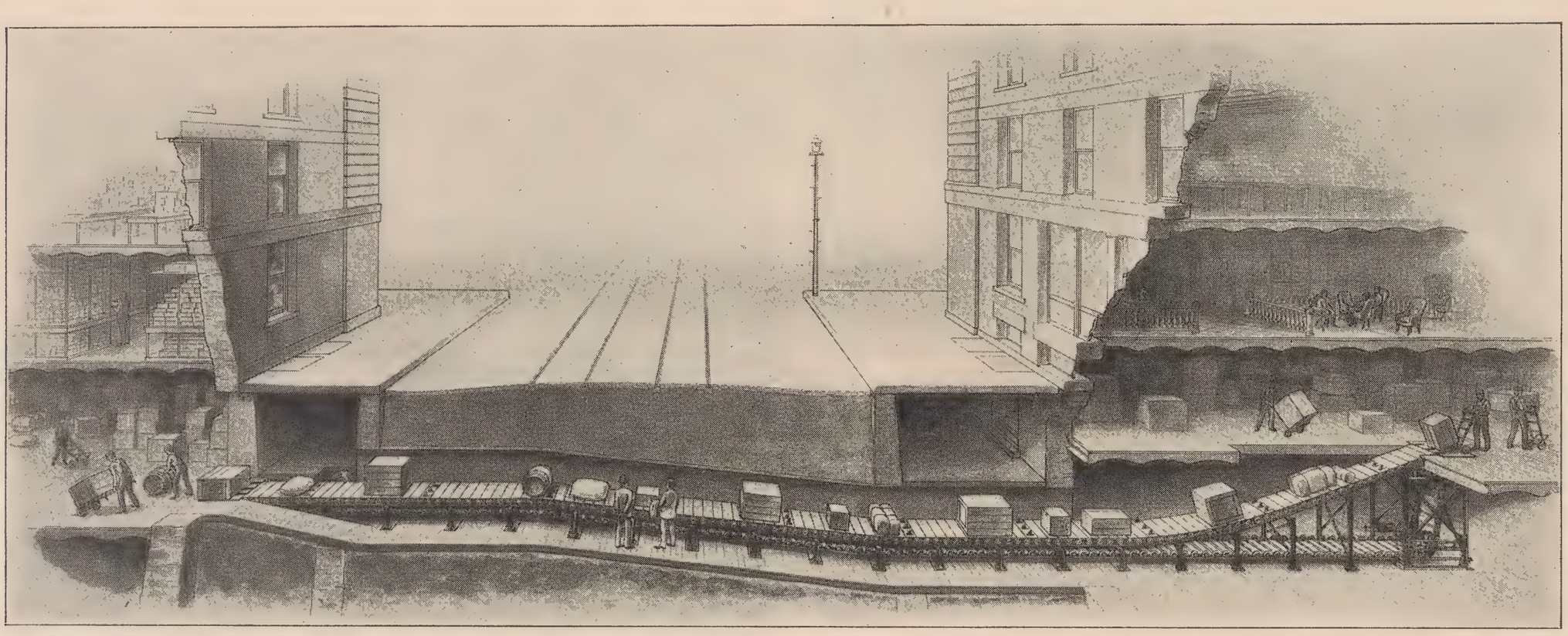
(To be continued.)

How to live in one room and still have some space to spare is a problem which has been solved by an architect, who made the plans, and, according to a friend, built and furnished the room. "He turned down a nice bed similar to the sleeping-car variety; adjoining it was a chiffonier with half a dozen drawers in it and a glass at the top, the glass being concealed by a lid which drops down, making a shelf for toilet articles. Beyond was a washstand opening up in the same way, with water-tank and bowl complete. In another place was a door that fell down, making a small table, and revealing a cupboard, where dishes and food might be kept; in still another, a similar lid dropping made a writing table, and revealed space and shelving for a good-sized library, with a nook for ink, pens and such things. A half dozen leather-covered seats were hidden in the same way, ready to be pulled down for use, and behind each of them was shelving. The depth of the wainscoting were drawers and shelves, room for a trunk, and little cubbyholes for storing things, until really in that one wall, 20 feet long and 10 feet high, was room for more stuff than most people possess." Surely all bachelors and bachelor maids, and people of small income generally, will rise up to call this architect blessed.

THE BUTLER BUILDING, CHICAGO.

THE Butler building, or more properly speaking, series of buildings, by Architect Jarvis Hunt, is very interesting both from the architect's and the engineer's viewpoint; to the architect its magnificent proportions, in grand and imposing lines, displaying in the harmony of its strength and simplicity the power of concentrated effort in the expression of modern ideas of progress. This building not only represents the highest type of a modern business structure, but has in its interior construction a combination of all the most modern ideas in that form of structure. Without the expensive details of an office building, it has all the requisite conveniences necessary for the comfort of both employer and employe, with a most perfect arrangement of detail for convenience and utility in the transaction of an enormous business. Every modern feature of appliance for minimizing the labor or economizing space has been used in its construction.

First, there is the massive structure extending seven hundred feet on the line of railroad connections for all the world at their very door. These buildings having been erected at different



AUTOMATIC ELECTRIC CARRIER SYSTEM, INSTALLED BY THE LINK-BELT MACHINERY COMPANY.

periods, and one of them for a different purpose, must be combined into one perfect whole.

In putting in the foundation for the new building sixty to seventy-five foot piles were driven to bedrock, while the foundation of the earlier building to the north was laid by the method in vogue in Chicago some ten or fifteen years ago, and designated as the "floating foundation," which was in fact somewhat similar in effect to a series of pontoons so laid and connected that the building, as its weight was increased, gradually pressed the upper strata of clay into a solid form, equal to stone in resistance, but of much greater elasticity. This foundation having become almost solid, the problem in putting in the new foundation of an entirely different material and under these peculiar circumstances, that there be no perceptible difference in the height of the floors, required the most careful and scientific treatment. That this was given is shown conclusively by the fact that when the new building was completed and the settle all accounted for, there was not over a quarter of an inch difference in the two floors. This must be considered a marvel of good engineering and good luck combined.

In the erection of an immense mercantile structure like the Butler building only a construction company with unlimited facilities and wide experience could hope to fulfil the requirements of the contract satisfactorily. There were five millions of brick, four hundred tons of steel and ten thousand barrels of Portland cement, with other material in proportion, put into this building in the space of six months. The cold storage plant, which covered a part of the site, was not turned over to the contractor until June 15, and the building was completed and occupied by the Butler company early in December. The foundations had to be handled with great care, being laid under two totally different systems and at different periods of construction. The problem of settling had to be solved with great exactness. All these matters were brought to a satisfactory

conclusion under the personal supervision of Mr. William Grace, of the William Grace Company, whose practice it is to make an abiding place with a fully equipped office at each of his buildings, thus the responsibility falls upon his shoulders, where it is sure to meet with able management in overcoming the difficulties, that all large enterprises are subject to, with intelligence and dispatch.

Among the numerous mechanical contrivances for the rapid transaction of business in this colossal warehouse, none have created so much interest and made so great an impression on the general results as the automatic electric conveyor, which, by the use of a simple five-horse-power electric motor, carries thousands of large and small packages from the shipping-room on the north to the freight and storage warehouse on the south side of Randolph street. The conveyor is about one hundred and twenty feet long and about nine feet wide. It is operated on the same principle as the moving sidewalks. The machinery is all very simple, but of great strength. Packages are dumped on its moving surface and are held in place by iron dogs. All the packages start from the house north of Randolph street and are conveyed almost to the freight cars on the south side of Randolph street, through a tunnel running under the street, the packages only stopping long enough on the way to be checked in the way-bill of the freight clerk. When the conveyor is run at full speed its capacity is simply enormous, aggregating thousands of tons, and when one considers the tremendous saving of men and time, as well as the great convenience of this method over the use of truckers, it would seem that architects, where they have to arrange for shipping-rooms, would find it convenient to apply this principle to its fullest extent. The Link-Belt Machinery Company of Chicago, who built this conveyor, design and install machinery of this character to suit any conditions, and have equipped many of the largest warehouses throughout the country.

The illustration of the conveyor, as shown above, gives something of an idea of their utility and value as an economist in time and labor.

The Butler buildings are absolutely fireproof and stand on piles driven to bedrock; on these rest heavy steel I-beams imbedded in solid concrete, the framework being steel throughout. Under each floor is a bed of solid concrete, while each story is roofed with hollow fireproof tile. The buildings are provided, by the Otis Elevator Company, with fifteen freight elevators and three passenger elevators. As an illustration of the capacity of their freight elevators, it is worth while to mention they will convey three tons at the rate of 250 feet a minute. The fireproofing, furnished by the Illinois Terra Cotta Lumber Company, required to complete this work would cover ten or twelve acres of surface and amounted to nearly half a million square feet.

THE DECORATION OF ST. PAUL'S CATHEDRAL.

BY SIR WILLIAM RICHMOND, K.C.B., R.A.

At the time of the Prince of Wales' recovery from his serious illness £100,000 was collected for the decoration of St. Paul's Cathedral and about £30,000 was wasted by the authorities in experiments — all manner of experiments being tried. The putting up of scaffolding underneath the great dome, in order to place cartoons there, cost between £800 and £1,000, and that being so, they did not want to make any more experiments.

The work began in this way: Mr. Bodley, who was entrusted with thinking out some scheme of decoration, asked him (the lecturer) for his views, which he gave him. Now those views were absolutely decided long before he was asked even to consider the decoration of St. Paul's, and they were decided rather curiously. When he was a little boy, thirteen years of age, his mother took him to hear a service in St. Paul's. He looked up to the mighty roof, and coming out he said to his mother, "Some day I will cover that with mosaic." Years after that, when he was nineteen years of age, he made his first visit to Italy, and he said to himself then — it was forty years ago — "I will now begin to prepare myself for the great task which may some day come to me."

He visited then, and he had visited since, all the churches covered with mosaics in Italy, many in Asia Minor and all in Greece, so that in a sense he was prepared — anyhow to think about the decoration of St. Paul's. He made up his mind to stick to two things in carrying out the decoration of St. Paul's. One was that the work should be carried out by Englishmen, and not by Italians, and that if he could not find Englishmen who could do the work, he would not send to Italy for them, but that he would teach and train them himself. The second thing he decided was that he would never have anything to do with that odious modern invention, paper mosaic; that he would set the tesseræ in cement and not stick them on with a bit of glue onto a piece of paper and then pile them onto the wall — a most childish and vicious operation. Work which was appliqué could be done anywhere; it could be done in Italy and carted over here, and the man who did it never, perhaps, saw the building in which it was to be placed, and did not know what the environment was — perhaps never saw the work executed at all. An axiom he would go to the stake for was that decorative work, if possible, should be done *in situ,* and with the experience he had had in covering nearly fifteen thousand square feet — including windows — of wall, he knew that that axiom was sound, for it was impossible to tell, except on the spot, how colors or even forms would tell. Light was such a subtle thing — so deceptive, so often misleading, that a red or a blue or a yellow, or even a white, might entirely change its relative value.

The committee entrusted the work to him and he made it a condition that he was not to submit his designs to the British public. The British public had not made up its mind in the least degree as to what it liked, and it was for artists and decorators to help them make up their mind. Neither had the critics of the press unanimously made up their mind, for one set would be found praising one class of work and another set would be demonstrating its folly. He did not intend to alter any of his designs, except from the point of view of either ecclesiology or archæology, and he said to the committee: "You must trust me as the artist; I am supposed to know my business." He determined to begin in the east end, on the northeast sanctuary wall. For the mosaic he went to Messrs. Powell, of Whitefriars. He asked them if they could make him some glass mosaics as good as the old Greek glass, and he was told that they could, and he was bound to say that they had manufactured glass mosaic as good as the old Byzantine glass. Then, as to laying the mosaics, he had first to teach the workmen how to work. He got together a number of boys and young men who could not draw, and he built a studio in his garden, and there he taught the students how to lay the tesseræ from his cartoons.

The labor was great. They started at 8 o'clock in the morning and worked till 8 o'clock at night. He knew it was no use to make the first experiments upon the walls; therefore, he had large slabs of slate cut, well scored with diamond shapes, and upon these he laid the cement. He found the receipt for the cement by accident in the library at Bologna. The cement, which was used in the decoration of the baptistry at Florence, was composed of wax, lime and resin. It was very good for its purpose, for it kept sufficiently moist for five to eight hours, and could during that time be worked as wax, and then it became as hard as stone and did not shrink. From his drawings tracings were made, and the outline was then pricked into the cement. A mosaic worker was then given a series of colors, say four, with a rough color drawing by his side, and was told how to place the cubes. As the boys became more intelligent (and he found that by kindness intelligence grew) they worked better, and after four months they produced two large angels which are now to be seen in St. Paul's on the northwest wall of the sanctuary. A start was then made in the choir vault, and he determined from that time to work direct upon the wall, for he had trained the men sufficiently. With a staff of nine he started on the enterprise, having two assistants who traced for him. He made for the design of the vault of the choir over three thousand drawings, and his *modus operandi* was as follows: He put down as swiftly as he could an idea on paper while it was fresh in his mind, and then he put tracing-paper over that, and corrected it until it began to look right. The same with the color scheme: first a blot of color, then tints carefully chosen and corrected; and perhaps for one design he made twenty color sketches. The design was scored in in charcoal by one of his assistants. and then he (the lecturer) determined the color. He took a tessera which represented the color he had in his mind, and he mixed his tints to that and put them on as swiftly as he could. In putting them upon the walls the workmen became so dexterous after a couple of years that with a very slight hint of color they were able to carry out his scheme with admirable skill. As a fact, he had never seen such fine mosaic work — he was referring to the labor only — in any country in the world as his workmen did in the four quarter domes of St. Paul's. We had no business to say that Englishmen were not artistic. What were called the lower classes were full of taste, and they only wanted good guiding and kindness to do as noble work as was ever done by the Italians.

The beauty of mosaic as an art was that it gave pictures in bricks; but directly the artist attempted to imitate an oil or water-color picture in a material which was not at all ductile he committed a great mistake, and that was the mistake which had almost invariably been committed in England by people who designed in mosaic. He very much disliked the huge prophets in the big spandrels under the dome of St. Paul's; they were very fine designs, but not designs which ought to have been executed in mosaic; they ought to have been painted upon the walls in oil or water color. Mosaic, when used in that way, gave an inferior representation of a superior medium. That kind of bad taste was catching, and it was caught in Italy, at St. Peter's, at that bad time of art when the huge mosaics were done at the east end and over the side chapels. At that time people were treating

*Paper read before the Incorporated Institute of British Decorators, London, March 13, 1903.

the wall as they treated a picture. The same remarks applied to St. Mark's, Venice. Severity was the mother of mosaic, simplicity its father, and without those two conditions, and unless they accepted those two conditions, they had better never touch mosaic work.

He made a great many mistakes at St. Paul's, but never the mistake of being too simple; he made many by being too complicated. If he were to imagine the most delightful mosaic which could be made, it would be something like this: A simple, graceful, majestic outline of a Greek vase filled with the most simple colors, absolutely irrespective of light and shade, and only dominated by tint and tone. There could be no good reason why the mosaic drawing should not be as splendid as the drawing on the Greek vase, for what they could do in mosaic was essential, and what they could not do was accidental. The Greek, with his magnificent conceptions, his limitless intuition, and his ingenuity, showed simplified nature; he gave it all to them, and yet there appeared to be nothing. That was the principle upon which all great decorators should go. In decoration it was no use to copy nature; they must have learned nature and have nature at their fingers' ends, and they must learn that lesson which came to them late in life, i. e., what to leave out.

Michael Angelo said that one never learned from one's successes, but one always learned from one's mistakes. At the initial part of the work he made two mistakes; he used too much white and too little black. White expanded at a distance, and it had a tendency to spread. Colors needed to be separated by a black line, or they merged. One of the essentials of good mosaic decoration was the use of few colors. He began with thirty, then reduced them to fifteen, and finally to five. He found out how to use these five colors and make them tell, and also to get a greater variety by using five colors dexterously than by using thirty clumsily. Pliny told us that the later Romans had a mixed palette, and they painted bad pictures, and that the ancient Greeks had only four colors, and with these they painted pictures valued at the price of a great city. In order to get white in the quarter domes underneath the big dome of St. Paul's he had to use the very brightest yellow he could procure. If he had used white it would have looked quite blue. He would like any of them who were interested in what had been done at St. Paul's to go on a fine day into the left aisle and look at a window which was in the quarter gallery at the east end, and then at the windows in the dome, and let him know which was the whitest. The windows in the dome were made of what is called cathedral glass — an abominable color, a sort of green stuff which is called white. He determined to make white by color, and he produced a design for white light in sheet lead. He used red, blue and yellow only — no green; that was an abominable color to use; if they wanted darkness, they could use green. White, blue and red in proper proportions produced white at a proper distance. His windows made in that way with sheet lead were whiter than the green things put up in the dome.

Speaking of stained glass, he said that it seemed to him that the art of stained glass was going out of the country because the designers were determined to make pictures. The most beautiful windows that were ever made were those which were outlined with lead only, and with no pigment added to them. Those were the early windows, such as were to be seen in the upper church at Assisi, which were perfect jewels. At South Kensington the other day two students painted two little specimens of windows as light and colored as they could. One student took a piece of white glass and painted and modeled it very elaborately. The other leaded his window well up in bright color, and when the two were placed side by side at the end of the room the leaded window gave the bright light. Light permeated transparent colors, but it could not get through pigments.

The work at St. Paul's had, for a time at any rate, been suspended. He was finishing one aisle, or one bay of the aisle, and it would be opened before long, and it would give an example of the manner in which he would like some day to treat the two aisles. There were angels on a gold ground — he had used red and gold rather freely. If they looked at his scheme and compared it with the bare walls of the vaulting of the aisle they would see that his mosaic and the decorative part looked as though it were on a paper wall, because the scheme had not been carried across. In the completed part they would see that it not only formed the vaulting of the aisle, but that the color formed the buttress. It was curious to see that since the aisle had been decorated with color and brought up to the same point of interest as the face of the wall how infinitely stronger structurally the church looks, and that was a matter they must always keep before them as decorators. Color could either strengthen the appearance of structure or weaken it.

It was unfortunate that architects were not a little more broad-minded, and that they insisted so much upon their noble art standing alone. It never did. That was the most ridiculous position for architects to take up; in the first buildings ever put up color was introduced. The Parthenon was colored from top to toe, and if some of the sham classic architects were to see that building as it was, they would say it was not to their liking. Every Norman church in England was painted, and there were over two thousand churches in England now, notwithstanding the Puritans and iconoclasts, that retain vestiges of mediæval paintings; and England was renowned on the Continent as having a greater number of painted churches than France and Italy. Until the architect, the sculptor and the painter worked together in unison we should not get the finest art, or art as it used to be in this country. It had been his endeavor at South Kensington that the students should not limit themselves to one art — they learned to execute work in concert.

FAILURE OF CONCRETE AS A FIREPROOFING MATERIAL.

WHEN an accident occurs during the construction of a building, by which the structure is partially or wholly wrecked and lives lost or jeopardized, architects and contractors are interested in learning the methods of construction employed and the material used. But when a succession of accidents to buildings similar in construction and material occur, it becomes a duty to those to whom the profession looks for information to investigate and report the facts.

Thus, special attention has been called to a disaster that occurred in Milwaukee to a building in course of construction for the Johnson Service Company, for which Herman Esser is the architect. The building is to be used for factory purposes. The area of the building is 58 by 175 feet, seven stories in height. It is enclosed in brick walls — dead walls on the sides 25 inches thick in first and second stories, 21 inches in third and fourth stories, 17 inches in fifth and sixth and 13 inches in seventh story. The front has ordinary piers and window openings. The columns up to the fourth-story floor are of cast iron, placed in panels 18 feet 9 inches apart. With the exception of these columns and the brick walls, the entire structure is of concrete, the columns above the fourth floor being also of this material.

Each square is divided by beams and girders into panels, making squares of 6 feet 3 inches. The beams and girders forming these panels are of concrete. The beams are 6 inches wide and the girders 12 inches, each being 20 inches deep. Through each of these beams and girders, from wall to wall, run twisted iron rods of different dimensions, and the concrete columns seem also to be cored with four to each column; and the floor, which is four inches thick, is set in a network of rods about four inches apart.

These dimensions are taken from the architect's plans, but the distance between girder and beam centers was changed after these were made, and it seems probable that the architect had little to do with the construction of the building, though his design and the construction plans show a safe and ordinary method of factory construction, and that the accident was in no manner due to his officework and can not in any way reflect upon him as an architect.

After the front and side walls had been completed and the interior construction had been carried up to the sixth floor, a sudden collapse of a section embracing two or more columns and a portion of the building, covering twenty feet or more, carried down three stories below, and a large section of the front. As near as can be learned, this was due to the giving way of two concrete columns, one of which was just finished. Shortly before the accident the boxing of this column was seen to bulge with the weight of the beams and the girders and material which was being set, and an attempt was made to tie it together until the concrete had set. It is probable that another column started in the same manner, and these, finally giving way, let the entire mass of concrete fall to the next floor, which in turn gave way with the strain, and so on till stopped by the floor of the second story.

This description of the constructive methods employed will show that if concrete can be used at all as a material for building, that in this case it had every chance for proving its constructive value, but it has been tried and found wanting. It is a specious material, for it gives promise of everything, but may perform nothing. It gives a promise of strength and security which is backed by hundreds of years of service in works of many kinds. Then why, in the construction under consideration, does it fail? Because it does not and seldom can have the complete superintendence that is absolutely essential to its perfect stability. It must be perfect as a chain. A false link jeopardizes the entire structure, and with changeable weather, ignorant and careless workmen, faulty material and the many other factors that are almost inevitable in ordinary construction, its use for columns, beams, girders, or even floors, is incompatible with safe construction. Its weight, if nothing else, is against it, and where the hydrostatic pressure becomes too great on a column or girder that is too green and its supports weak or removed too soon, the inevitable happens; and to repair a building of concrete, especially as observed in this, is no joke, with its jagged, broken concrete (that only yields to drill and hammer) and twisted masses of iron rods, each of which has to be considered in any repairs that are made. If this accident was the only one that has happened to concrete construction, the case against its use would not be so strong, but they are numerous. The partial record shows three floors of the Hotel Oswego fell on October 12, last — gave way under construction; Kaufman Brothers' warehouse, at Pittsburg; Bell Telephone Company building, at Philadelphia, in which an entire floor gave way; the Wonderland Theater, at Detroit; the Conservatory apartment building, at Boston, and the Paddington apartment building, at Chicago, all constructed by some system of concrete, while the most disastrous and recent was that of the Lawrence Savings Bank, at Newcastle, Pennsylvania.

The use of concrete systems seems to be mainly brought

about by owners seeking to find some cheap method of obtaining fireproof construction. Of course, while building ordinances may recognize it as such, concrete is not "fireproof" in the sense of being indestructible, as it crumbles in extreme heat. Constructively it is uncertain, as it can be worse than defective by hardening too quickly and unevenly, or not sufficiently, before weight is placed upon it. Its weight can not be measured accurately in preparing plans, for it is absorbent and its weight is incalculable, except that its weight is such that it should be left to the piers and foundation work, where it is perfectly suited. It is not cheaper than good steel and hollow tile construction and should be relegated to the field in which "slow-burning," "mill construction," "fireproofed wood," "expanded metal" and other fake fireproofing belongs. It is too expensively dangerous for our enlightened age to tolerate, when other and better methods that are perfect in adaptability and secure in their results are at hand and have been in common use and tested in every way for a quarter of a century.

COMBUSTION.*

BY MORRIS R. EBERSOLE.

THE house-builder, generally speaking, is satisfied if the chimney of his residence looks well and balances the general appearance of the house.

That it should become a matter of great importance and serious calculation, seems to be entirely unnecessary, as most chimneys look alike to him, and so long as it *seems* right to him, all else is taken for granted.

It has been said, on the other hand, that nine-tenths of the trouble people have with heating apparatus — not only that, but with boilers, ranges, furnaces, etc. — is caused by badly proportioned, poorly constructed chimneys.

It is quite proper to give a subject upon which so much depends some thought, and it has been shown again and again that a due appreciation of some of the simple rules of chimney design would not only obviate many positive discomforts in a home, but prove to be the remedy for a so-called faulty heating apparatus.

One of the first problems given to a student in engineering is to calculate the size and height of a chimney or smokestack for a boiler of a given capacity.

If the heating apparatus does not work satisfactorily, the blame is immediately and without fail put upon the boiler or heater, and consequently, upon the company which manufactured it. This is a great injustice to both, provided a thorough investigation of all the conditions is not carried on. The piping, amount of radiation, placing and exposure of same, improper arrangement, and last, but by no means least, the draft or chimney, are many causes which disturb satisfactory results.

In the crowded city, chimneys sometimes have a hard time to breathe; houses are packed together so closely that the breezes which may prove beneficial to one chimney may pitch down upon the next and choke it, or swirling around the corners of walls or over the comb of the roof of the same or adjoining buildings may render them useless.

In the country, a tall tree, or adjoining high building or cornice, may cause the same trouble. These chimneys should either be built up or enough pipe of proper diameter added to carry them free and clear of all obstructions.

It is well to remember the old experiment of baking bread in a cookstove, set up out of doors, with three joints of pipe only for a flue, and the temperature at zero, yet this same stove is not certain to bake bread if attached to many flues indoors.

Draft is a property of the chimney, and the chimney alone. It varies directly in strength as the chimney is low or high, as the area of the chimney and the shape of its cross section.

(To be continued.)

PAINTS IN ARCHITECTURE.

IN the *Deutschen Malerzeitung* of February 1, 1903, I find an interesting article, with the above title, which is worth translating. The writer, evidently a painter, says:

"Regarding the durability of *zinc white* paint on exteriors, I can testify from my own experience. In the summer of 1889 I painted with *zinc white* a very large building front (southwest side), and the following year a similarly large building on the opposite side of the street (northwest front), also with *zinc white* in oil. Both façades, which are very much exposed to the weather, held remarkably well. During 1898 and 1899 both fronts were repainted by another hand, and, indeed, after washing twice only; which permits the conclusion that the paint itself had lasted very well and only the dust and smoke of the great city made repainting necessary.

"I would, without hesitation, again paint any front with *zinc white,* for an endurance of ten years is truly satisfactory.

"The belief that one can not get along without white lead is one of the many prejudices drummed into the apprentice's head, and which the latter, without verification, simply repeats during the rest of his life.

"That *zinc white* can not be bad for exterior use is evident on the slightest consideration of the fact that *zinc white* takes up a very large proportion of oil — much more than white lead — and consequently, since the oil and not the pigment is the effective and durable constituent of an oil color, the durability of a *zinc white* coating must be greater than that of a coating of white lead, which is poor in oil. . . . .

"Let tests be made after this example, opportunity can not fail to arise, and individual experience convinces — mere words can not. That which is satisfactory for façades will serve also for other work."

This question is just now greatly exercising the European authorities, and the results of a series of tests now under observation at the Pasteur Institute, in Paris, are likely to prove instructive.

CHARLES JOURDAIN.

* From *The Boiler Magazine,* Kellogg-Mackay-Cameron Company, Chicago.

CORRESPONDENCE.

CHICAGO, ILLINOIS, February 25, 1903.

Editor, INLAND ARCHITECT:

Does it seem fair and just in the examinations for architects' license to exempt some applicants from part of the examinations, as is the case in our State? Why should a graduate student of a university be exempt from the engineering part of it any more than a student who has studied privately, when it seems apparent that the private student's chances of a more thorough knowledge of construction and practical detail are greater because of individual rather than class work? Then, too, if the "graduate student" is perfect in construction, why should he hesitate to take it; why not raise his general average with that part of the work in which he is supposedly perfect? Why should not the Board of Examiners insist on personal knowledge of the capacity of each individual, rather than the "say so" of a university?

All this may be answered by the "defense" with the statement that the students of the university are regularly examined. To which I will say, that it does not surely follow because their papers are passed on by a too often charitable and favoring professor, that they have the capacity to do four or five days' work in a very small fraction of that time, as is required of the less favored applicant.

My experience is such that I know such procedure is wrong. Personal acquaintance with the ability and knowledge of two or three such licensed architects, "favored graduate students," has proven to my satisfaction their incompetency and the fallacy of such procedure.

To prove my statement, I have personal knowledge of a case where a licensed architect (graduate of the accepted best school of architecture in the United States), in drawing up the basement construction of a residence, called for a girder 6″ by 12″, 16′0″ centers, and it was found that a 16″ by 14″, placed 8′0″ centers, was just sufficient to carry the imposed load.

To the Board of Examiners and to the public: Is this safe? Does this favoring seem right and just?

A SUBSCRIBER.

OUR ILLUSTRATIONS.

Residence at Buffalo, New York.

Residence at Los Angeles, California.

Residence, Toledo, Ohio. G. S. Mills, architect.

Warehouse for Butler Brothers, Chicago. South addition, by Jarvis Hunt, architect.

Academy of the Sacred Heart, Lake Forest, Illinois. Egan & Prindeville, architects, Chicago.

Residence of Gen. Harrison Gray Otis, Los Angeles, California. John P. Krempel, architect.

Liberal Arts Building, Louisiana Purchase Exposition, St. Louis, 1904. Two views are shown. Barnett, Haynes & Barnett, architects.

Addition to St. Mary's Academy at Notre Dame, Indiana. Egan & Prindeville, architects, Chicago. It will be five stories high and will front 220 feet, with a depth of 175. It will be built of pressed brick and stone, and will be devoted to class rooms, study halls and dormitories. It will cost $120,000, and construction will be commenced at once.

Accepted Design, St. Paul's Cathedral, Pittsburg, Pennsylvania. Egan & Prindeville, architects, Chicago. The building will cost $600,000. Construction will be commenced in a short time, and it is estimated that two years will be required in which to complete the building. It will be constructed of Bedford stone. The design is in the fourteenth century Gothic, with double aisles and double clerestories, with two towers, and spires 250 feet high. The spires will be constructed of stone to the top. The total length of the building will be 250 feet, and will be 135 in width.

Photogravure Plate: Apartment Building, New York city. Horgan & Slattery, architects.

PHOTOGRAVURE PLATES.

Issued only with the Photogravure Edition.

School Building.

Residence of Mr. Grant, Denver, Colorado. Theo. David Boal, architect.

First Church of Christ, Scientists, Denver, Colorado. Varian & Sterner, architects.

Monument to Soldiers and Sailors, New York city. P. E. Duboy and C. W. & A. A. Stoughton, architects.

Residence for M. Born, Chicago. Frost & Granger, architects; E. P. Strandberg & Brothers, general contractors.

Building for South Jersey Gas, Electric and Traction Company, Trenton, New Jersey. W. M. Poland, architect.

Residence for Simon Mandel, Chicago. Frost & Granger, architects; E. P. Strandberg & Brothers, general contractors.

THE INLAND ARCHITECT AND NEWS RECORD

Vol. XLI. ADVERTISERS' TRADE SUPPLEMENT. No. 3

EFFIGY OF A FAMOUS EAGLE.

WASHINGTON, February 27.—The navy annex building, just west of the War Department building on Pennsylvania avenue, is surmounted by one of the most elaborate eagles to be seen on any Government flagstaff. It is an effigy in copper and aluminum of the famous bald-headed eagle, "Old Abe," which the 8th Wisconsin Volunteers carried with them through the Civil War and for years maintained in princely quarters at the Capitol of Madison.

A fine portrait and an interesting biography of this remarkable eagle, probably the most noted bird in history, and the only feathered war veteran on record, will be found in the March number of *The Four-Track News,* which can be obtained of any newsdealer for 5 cents.—*Special to the New York Times.*

ROOFING TIN.

Statistics show that during the last three or four years, or since the American Tin Plate Company began to reform the methods of producing terne plates, the efforts of that company to reëstablish the old-time reputation of roofing tin have met with splendid success. The use of terne plate, especially of the higher grade brands, has increased to a very great extent, and this material is now largely preferred to other kinds of roofing material. The truth of the motto, "The Best is the Cheapest in the End," is recognized by the consumers.

When the American Tin Plate Company came into possession of the larger tin-plate works in the country it also gained the services of the best experts in this branch of industry. The combined experience and knowledge of the latter, as well as of the experts engaged by the United States Steel Corporation, of which the American Tin Plate Company is a constituent, are at the disposal of the American Tin Plate Company. This fact, strict supervision and the systematic mill practice which prevails in all of that company's works, enable it to produce material of superior make.

The most favored brands at present are the "MF" Old Style and the "U. S. Eagle N. M.," but besides these the company makes a variety of other grades to suit various purposes and occasions.

The American Tin Plate Company's products are for sale by all first-class wholesale metal houses.

Recently the company issued a very handsome booklet, entitled "A Fifty Year Roof," which, besides giving a succinct history and description of terne plate making, also teems with useful technical information. Mr. W. C. Cronemeyer, the Pittsburg agent of the American Tin Plate Company, 1211 Carnegie building, Pittsburg, Pennsylvania, will send this booklet, postpaid, free to all applicants.

BUFFALO FORGE COMPANY'S BOOKLETS.

Very handsome booklets of value to those concerned in building have just been issued by the Buffalo Forge Company to emphasize the peculiar excellence of their various manufactures.

The larger of these relates entirely to Down-draft Stationary and Heating Forges. This system originated with this company, but is no longer an experiment, having successfully withstood the test of time. So many of these Buffalo Forges have been taken from burned buildings and reinstalled without repairs, as to justify the claim of practical indestructibility. Another of their more notable advantages lies in the fact that they keep forgeshop atmosphere pure, and materially reduce the temperature in summer. The principle of operation is very thoroughly described, and the various styles of forges manufactured are clearly pictured by more than fifty finely executed cuts.

A second booklet is devoted to "Typical Features of Mechanical Induced Draft," being copiously illustrated with cuts of draft fans, as well as industrial power plants fully equipped. This new departure makes feasible a material increase of capacity without the necessity of enlarging the boiler plants, and prevents smoke, while at the same time saving fuel.

Their "Typical Engine Features" calls renewed attention to their justly celebrated horizontal and upright engines, in which frictional losses are reduced to a minimum, while a continuous spraying action bathes all bearing surfaces in oil. This system represents the most advanced practice in modern engine lubrication.

The further fact that all types may be arranged for direct attachment to standard generators, and are adapted to such service in the highest degree, renders them especially valuable. Thirteen illustrations correctly depicting each type add greatly to the interest of the publication.

All three of these booklets are very attractive in appearance and will prove helpful.

IN HONOR OF THE EXPOSITION.

Railroads entering St. Louis are eager to advance the interests of the World's Fair of 1904. An important addition to the means of communication between St. Louis and the East has just been made. A new train called the St. Louis Exposition Flyer runs via the New York Central, Lake Shore and Big Four lines. Leaving Boston 11:15 P.M., New York 3:15 A.M., Albany 6:40 A.M., Syracuse 10 A.M., Rochester 11:42 A.M., it reaches Buffalo at 1:15 P.M., and lands its passengers at St. Louis at 7:30 the next morning. Complete terminals for the railways entering St. Louis will be provided at the World's Fair grounds, so that visitors to the Exposition of 1904 may have every facility that will economize their time and add to their comfort.—*From the Brooklyn Standard Union.*

A VALUABLE COVERING.

The production of heat and power, and the most economical use of it, is of special interest to builders at the present price of coal. One method of solution is to be found in the covering selected. Of the many kinds now on the market probably none are more economical or give greater satisfaction than Eighty-five Per Cent Magnesia, manufactured by the Keasbey & Mattison Company at their mills in Ambler, Pennsylvania.

Used in various forms and for all purposes where a substantial covering is required, magnesia seems to meet every test. This new article of commerce is absolutely fireproof, and, at the same time, has excellent non-heat-conducting qualities. While useful and valuable as a covering for steam pipes and boilers, it has a far wider use in the line of building lumber, and as such is utilized in window frames, doors, partitions, sheaving, shingles and weatherboarding.

Magnesia Building Lumber is composed of the natural fibers of magnesium silicate carefully felted together through the employment of intricate machinery designed for the purpose, and these felted fibers then thoroughly cemented through an artificially created magnesium silicate being crystallized within, upon and around the natural fireproof fibers employed in making the felt.

The resulting lumber is not only fireproof, but waterproof as well. It is so fibrous and tough in character that nails can be driven through close to the edge without splitting, while it can be tongued and grooved, planed, milled, shaped or fashioned in any desirable form.

This new material must commend itself to all thoughtful architects, constructing engineers and builders, and the company manufacturing it have lately issued several neat booklets thoroughly describing its nature and variety of usefulness.

TRADE NOTES.

"THE LAND OF THE SKY."—This is the title of an attractive booklet just issued by the passenger department of the Southern Railway, descriptive of western North Carolina. The book is beautifully illustrated, and gives the prospective tourist an excellent idea of the attractions of the charming mountain country. To those contemplating a trip for either health or pleasure, during the spring or summer, it would be well to apply to a representative of the Southern Railway for a copy of this booklet.

A SPRING AND SUMMER TONIC.—Go to the glorious mountains of western North Carolina, the "Land of the Sky" and "Sapphire Country;" a natural paradise at all times of the year, a pleasant spot, full of life, of color and enjoyment, rich with possibilities for health and recreation. For temperature and climate it is unexcelled. Reached by the Southern Railway.

Write for descriptive book of "The Land of the Sky," mailed free upon application to J. S. McCullough, N. W. P. A., Southern Railway, 225 Dearborn street, Chicago, Illinois.

WANTED

First-rate Architectural Draftsmen of experience. Address

ALDEN & HARLOW, Architects,
Pittsburg, Pa.

Specification Reminders

CEMENTS

PORTLAND.

Garden City Sand Co., 188 Madison St., Chicago.

CONTRACTORS

GENERAL.

Clarence I. Wolfinger, 164 La Salle St., Chicago.

FIRE BRICK

Garden City Sand Co., 188 Madison St., Chicago.

HEATING

FURNACE.

Robinson Furnace Co., 107 Lake St.

STEAM AND HOT-WATER BOILERS.

Kellogg-Mackay-Cameron Co., General Offices, Chicago, Minneapolis, Minn., Kansas City, Mo.

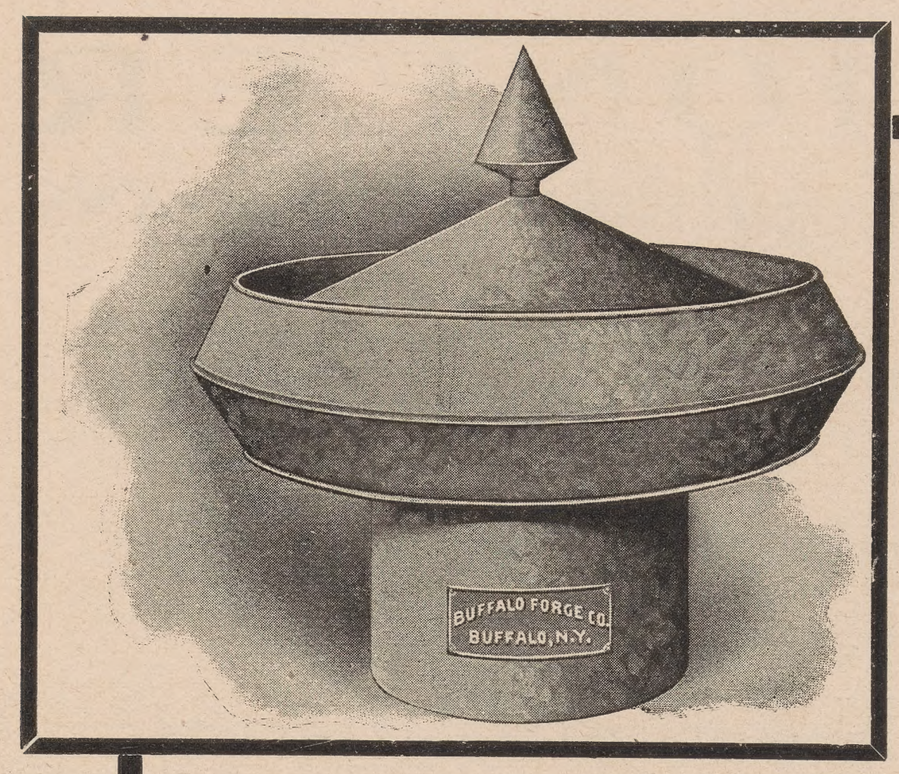
INTERIOR FINISH

Clarence I. Wolfinger, 164 La Salle St., Chicago.

SAND

WHITE.

Garden City Sand Co., 188 Madison St., Chicago.



BUFFALO Improved Ventilators

Perfect Ventilation

FOR

SCHOOLS, CHURCHES, FACTORIES, FOUNDRIES, ETC.

Also constructed with glass top, affording both light and ventilation.
Most efficient, simple, storm-proof and symmetrical.

BUFFALO FORGE COMPANY
BUFFALO, N. Y.

CHICAGO OFFICE:
22-24 Randolph Street

NEW YORK OFFICE:
39 Cortlandt Street

This (MF) trade mark is stamped on every sheet of the best roofing tin made. This (MF) mark means "Most Favored," because this brand is most favored by architects, dealers, and builders everywhere. MF Roofing Tin was first made in Wales 50 years ago—later the process was improved in America—and the product developed, until now MF Roofing Tin is more in demand than any other brand. The superior quality of MF Roofing Tin is attested by the first prize awarded it at the Paris Exposition, 1900, where it was in competition with all the world.

MF

The entire tinning process is effected by skilled hand labor, without the use of acids or rolls. The very best plates, a great amount of pure tin and new lead, the utmost care in manufacture, successively contribute to making MF the best of all roofing. It is most economical, because it lasts longest—many roofs made of MF 50 years ago are sound as ever today. MF Roofing Tin is sold by dealers everywhere. Specify it in your building estimates. Ask your roofer,

or write { W. C. CRONEMEYER, Agent, Carnegie Building, Pittsburg

and receive illustrated book on roofing.

AMERICAN TIN PLATE COMPANY, NEW YORK.

SPECIFICATION REMINDER

FOR THE USE OF

Architects, Builders

AND OTHERS.

A complete summary of items of every branch of building work. A very useful book for those who have to do with the erection and construction of buildings. Price, 50 cents per copy. Apply to

WILLIAM H. SAYWARD,
Secretary of the National Association of Builders,
166 Devonshire St. BOSTON, MASS.

"Big Four" Route.

CHICAGO

TO

INDIANAPOLIS,
CINCINNATI,
LOUISVILLE.

SOUTH and SOUTHEAST

THE SCENIC LINE TO

Hot Springs, Va., and
Washington, D. C.

Via the

Chesapeake & Ohio R'y.

J. C. TUCKER, G. N. A.
234 Clark Street, CHICAGO.

THE NEW YORK SPECIAL

A Splendid Train to New York,

Boston, and the East, via the Michigan Central, leaves Chicago 5:20 p. m. daily, arrives Buffalo 7:50 a. m. next day, New York 6:30 p. m., Boston 9:03 p. m., with through sleeping and dining cars, and runs via Niagara Falls. O. W. Ruggles, General Passenger and Ticket Agent, Chicago.

NATIONAL FIRE PROOFING COMPANY

STANDARD METHODS OF

HOLLOW AND POROUS TILE

FIREPROOFING

OFFICES

FRICK BUILDING - - - - - - PITTSBURGH
170 BROADWAY - - - - - - - NEW YORK
NORTH AMERICAN BUILDING - - PHILADELPHIA
TREMONT BUILDING - - - - - - - BOSTON
HARTFORD BUILDING - - - - CHICAGO

PIONEER

FIRE-PROOFING COMPANY

1515 Marquette Building

CHICAGO

CONTRACTORS FOR FIRE-PROOFING OF BUILDINGS

MANUFACTURERS OF CLAY PRODUCTS

The Architectural Index

Being a Monthly Index to a Selected List of Periodicals on Architecture and Allied Subjects

It embraces the principal publications of the United States, Canada, England, Germany and France.
It indexes alphabetically every article in them.
It redeems the articles from their miscellaneous character, making them easily accessible and therefore of inestimable value.
It will help you by locating articles on certain subjects concerning which you wish to be informed, giving the number and page of the periodicals containing such matter.
It is compiled by experts.
It costs only One Dollar a year.
Its value can not be demonstrated here.
Send Ten Cents for a sample copy and you will realize how valuable it is to you.

The Architectural Index

729 Sixth Avenue *NEW YORK*

THE NEW YORK SPECIAL

The Magnificent Train

of the Michigan Central, leaves Chicago daily 5:20 p. m., runs via Niagara Falls, and arrives Buffalo at breakfast time next morning, New York State points during the day, New York City 6:30 p. m., and Boston 9:03 p. m., with through dining and sleeping cars. O. W. Ruggles, Central Passsenger and Ticket Agent, Chicago.

MINNEAPOLIS AND ST. PAUL

FINE SERVICE — ILLINOIS CENTRAL — CENTRAL MISSISSIPPI VALLEY ROUTE — RAILROAD — FROM CHICAGO

New First-Class Through Line

from Chicago via Dubuque, Waterloo and Albert Lea. Fast Vestibule Night train with through Sleeping Car, Buffet-Library Car and Free Reclining Chair Car. Dining Car Service en route. Tickets of agents of I. C. R. R. and connecting lines.

A. H. HANSON, G. P. A., CHICAGO.

Mr. Architect: REASONS WHY YOU SHOULD USE

Dexter Brothers' English Shingle Stains

BECAUSE they will outwear paint or any other stain.
BECAUSE they preserve the shingle.
BECAUSE they do not give a painted effect to the shingle.
BECAUSE they do not change as other stains do.
BECAUSE they have no disagreeable odor.
BECAUSE they are used on the best work from Maine to California.
BECAUSE they are used by people who want the best of everything.

Exclusively used on the shingled country houses of *Mr. George Vanderbilt* at Biltmore, *Mr. J. Pierpont Morgan*, Adirondacks, *Hon. Wm. C. Whitney*, Westbury, L. I., *Mr. Thomas W. Lawson*, Egypt, Mass.

Manufactured by

DEXTER BROTHERS COMPANY
103-105-107 Broad Street
BOSTON

H. M. HOOKER CO., Agents
57 W. Randolph Street
CHICAGO

W. S. HUESTON, Agent
24 East 22d Street
NEW YORK

BUTCHER'S BOSTON POLISH
is the best finish made for
FLOORS, . . .
Interior Woodwork and Furniture.
Circulars Sent on Application.
For Sale by Dealers in Painters' Supplies.

MANUFACTURED BY THE
BUTCHER POLISH CO.,
356 Atlantic Ave., Boston, Mass.

OUR No. 3 REVIVER IS A SUPERIOR FINISH FOR KITCHEN AND PIAZZA FLOORS.

IRON and TIN ROOF PAINT
THE PROPERTY OWNER SAVES MONEY WHEN THE ROOF IS PROPERLY PAINTED WITH
DIXON'S SILICA-GRAPHITE PAINT
ADDRESS
JOSEPH DIXON CRUCIBLE CO., Jersey City, N. J.

20,000 Churches ALONE LIGHTED BY THE **FRINK System of REFLECTORS**
A pretty good record, and a guarantee of successful work. All sizes and shapes for every conceivable purpose. State your requirements, and we can meet them. Our Reflectors have been the standard for nearly half a century. Quality fully guaranteed. Send dimensions or blue prints for detailed estimates.
I. P. FRINK, 551 Pearl Street, NEW YORK

CRANE FITTINGS
ESTABLISHED 1855

CONVENIENT TRAINS
Leave St. Paul and Minneapolis daily
. . VIA . .
Wisconsin Central R'y
. . FOR . .
MANITOWOC, MILWAUKEE, CHICAGO,
where direct connections are made for the East and South.
Nearest ticket agent can give you complete information.
JAS. C. POND, Gen. Pass. Agent,
MILWAUKEE, WIS.

E. ELDON DEANE,
ARCHITECTURAL COLORIST, AND ILLUSTRATOR,
63 SEYMOUR BUILDING
Fifth Ave., corner 42d Street,
NEW YORK.

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.

ESTABLISHED 1872 INCORPORATED 1890

ORR & LOCKETT HARDWARE CO.

CHICAGO.

71 & 73 Randolph Street.

MANUFACTURERS, WHOLESALE AND RETAIL DEALERS

Builders' Hardware

ART METAL-WORK OF ALL KINDS.

Cooling Rooms.

Mechanics' Tools.

Table and Pocket Cutlery.

Our selection comprises THE BEST from all the leading factories, as well as our own, and our heavy purchases enable us to offer you these goods at prices which can not fail to please.

We have many specialties which we manufacture and control which can not be found anywhere else.

Orr & Lockett Hardware Co.

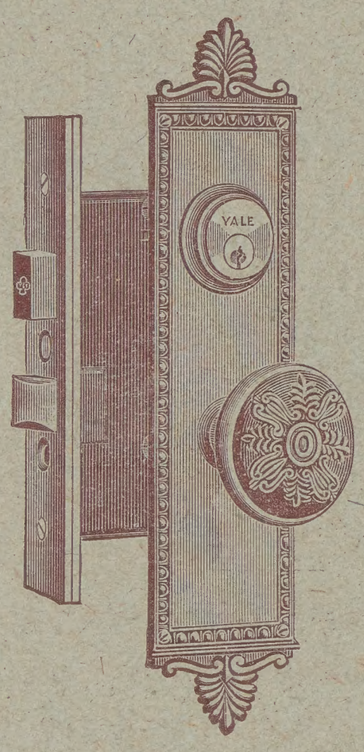
71 & 73 RANDOLPH STREET.

Telephone, Central 551.

THE YALE & TOWNE

Mfg. Co., General Offices:

9-11-13 Murray St., New York,



Produce the HARDWARE OF ORNAMENT (comprising decorative metal work for doors, windows and cabinets) in practically all schools, and a great variety of finishes. Examples can be seen in the Exhibit Rooms maintained by the Company in its General and Branch Offices.

Special Brochures, of technical interest, furnished to Architects on request.

CHICAGO OFFICE:

No. 131 Wabash Avenue.

IF YOU SPECIFY

SAMSON SPOT CORD

You can tell at a glance that no other Sash Cord is substituted. It is warranted to be of the best cotton stock, smooth finish and perfect braid.

SAMSON CORDAGE WORKS

BOSTON, MASS.

Hardwood Exposed to the Weather

must be protected by an exterior varnish of the best quality, or it will soon become white and weather-beaten. For permanent satisfaction, specify

SPAR COATING

For Varnish Booklet, write

TRADE MARK.

EDWARD SMITH & CO.

Varnish Makers and Color Grinders

45 Broadway, New York,

59 Market Street, Chicago.

The 20th Century Limited

The LAKE SHORE

and

NEW YORK CENTRAL

TWENTY HOUR

CHICAGO—NEW YORK

TRAIN

Lv. Chicago, daily, 12:30 p. m., Cent. Time

Ar. New York, daily, 9:30 a. m., East. Time

A. J. SMITH
Gen'l Pass'r and Ticket Agt.
CLEVELAND

C. F. DALY
Chief Ass't Gen'l Pass'r Agt.
CHICAGO

City Ticket Office, 180 Clark St.

Chicago to New York Between Business Hours

Please mention THE INLAND ARCHITECT when corresponding with Advertisers.